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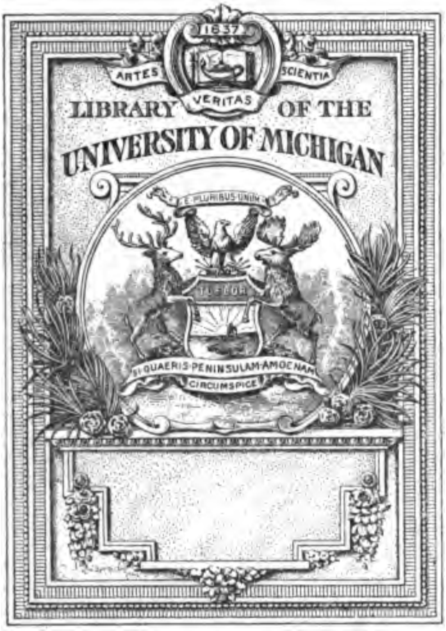
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CALENDAR

OF THE

UNIVERSITY OF MICHIGAN

1905-1906

ANN ARBOR, MICH.
PUBLISHED BY THE UNIVERSITY
1906

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ANNOUNCEMENTS

1906–1907

1906.

Jan. 9.	University Exercises resumed after Holiday Vacation.
Feb. 9.	(Evening) FIRST SEMESTER CLOSES.
Feb. 9, 10.	*Examinations for Admission to the Department of Literature, Science, and the Arts, and to the Department of Engineering.*
Feb. 12.	SECOND SEMESTER BEGINS.
April 13.	(Evening) Recess begins, ending April 23 (evening).
June 17.	*Baccalaureate Address.*
June 18, 19.	*Class Day Exercises in the several Departments.*
June 20.	*Alumni Day.*
June 21.	COMMENCEMENT. The Commencement Oration is to be delivered by BLISS PERRY, L.H.D., Litt.D., of Boston, Mass.
	SUMMER VACATION, JUNE 22—SEPT. 24.
June 25-Aug. 3.	Summer Session in the Department of Literature, Science, and the Arts, the Department of Engineering, and the Department of Medicine and Surgery.
June 25-Aug. 17.	Summer Session in the Department of Law.
Sept. 19-22.	*Examination for Admission to the Department of Literature, Science, and the Arts, to the Department of Engineering, and to the School of Pharmacy.*
Sept. 20, 21, 22, 24.	*Examination for Admission to the Department of Law.*
Sept. 22, 24.	*Examination for Admission to the Department of Medicine and Surgery.*
Sept. 24.	*Examination for Admission to the Homœopathic Medical College, and to the College of Dental Surgery.*
Sept. 25.	FIRST SEMESTER BEGINS IN ALL DEPARTMENTS OF THE UNIVERSITY.
Nov. —.	Thanksgiving Recess of four days, beginning Tuesday evening, in all Departments of the University.
Dec. 21.	(Evening) Holiday Vacation begins in all Departments.

1907.

Jan. 8.	Exercises resumed.
Feb. 8.	(Evening) FIRST SEMESTER CLOSES.
Feb. 8, 9.	*Examination for Admission to the Department of Literature, Science, and the Arts.*
Feb. 11.	SECOND SEMESTER BEGINS.
April 12.	(Evening) Recess begins, ending April 22 (evening).
June 20.	COMMENCEMENT.

1906

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•S. LAWRENCE BIGELOW, PH.D., *Junior Professor of General and Physical Chemistry.* 1520 Hill Street.

WALTER BOWERS PILLSBURY, PH.D., *Junior Professor of Philosophy and Director of the Psychological Laboratory.* 509 East Madison Street.

WILLIAM LINCOLN MIGGETT, M.E., *Superintendent of Engineering Shops.* 432 Hamilton Place.

†PAUL ROUSSEAU DE PONT, A.B., B.S., *Assistant Professor of French, and Registrar of the Department of Literature, Science, and the Arts.*

ALVISO BURDETT STEVENS, PH.C., PH.D., *Assistant Professor of Pharmacy, and Secretary of the School of Pharmacy.* 536 Thompson Street.

JOHN ARCHIBALD FAIRLIE, PH.D., *Assistant Professor of Administrative Law.* 730 South Thayer Street.

JOHN ROBERT EFFINGER, PH.D., *Assistant Professor of French.* 745 East University Avenue.

CLARENCE GEORGE WRENTMORE, C.E., *Assistant Professor of Civil Engineering.* 933 Forest Avenue.

TOBIAS DIEKHOFF, PH.D., *Assistant Professor of German.* 1030 Oakland Avenue.

HENRY ARTHUR SANDERS, PH.D., *Assistant Professor of Latin.* 1227 Washtenaw Avenue.

HENRY CLAY ANDERSON, M.E., *Assistant Professor of Mechanical Engineering.* 331 East Jefferson Street.

JAMES WATERMAN GLOVER, PH.D., *Assistant Professor of Mathematics.* 1312 Geddes Avenue.

ALBERT EMERSON GREENE, PH.B., B.S., *Assistant Professor of Civil Engineering.* 415 East William Street.

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†Died March 1, 1906.

WILLIAM HENRY WAIT, Ph.D., *Assistant Professor of Modern Languages, in Charge of Modern Language Work in the Department of Engineering.* 904 Olivia Avenue.

LOUIS A. STRAUSS, Ph.D., *Assistant Professor of English.* 900 Lincoln Avenue.

HERBERT JAY GOULDING, B.S., *Assistant Professor of Descriptive Geometry and Drawing and Secretary of the Department of Engineering.* 904 Lincoln Avenue.

ALFRED HOLMES WHITE, A.B., B.S., *Assistant Professor of Chemical Technology.* 1017 Hill Street.

ARTHUR LYON CROSS, Ph.D., *Assistant Professor of History.* 705 South State Street.

JOHN ROMAIN ROOD, LL.B., *Assistant Professor of Law.* 1014 Church Street.

EDSON READ SUNDERLAND, A.M., LL.B., *Assistant Professor of Law.* 1029 Vaughn Street.

JONATHAN AUGUSTUS CHARLES HILDNER, Ph.D., *Assistant Professor of German.* 1026 Greenwood Avenue.

CLAUDE HALSTEAD VAN TYNE, Ph.D., *Assistant Professor of History.* 1105 East University Avenue.

WILLIAM SYLVESTER HAZELTON, A.B., B.S., *Assistant Professor of Mechanical Engineering.* 824 East University Avenue.

EDWARD HENRY KRAUS, Ph.D., *Assistant Professor of Mineralogy.* 548 Thompson Street.

CLARENCE LINTON MEADER, Ph.D., *Assistant Professor of Latin, Sanskrit, and Comparative Philology.* 724 East University Avenue.

JOHN STRONG PERRY TATLOCK, Ph.D., *Assistant Professor of English.* 701 South Ingalls Street.

HUGO PAUL THIEME, Ph.D., *Assistant Professor of French.* 1209 East University Avenue.

WALTER MULFORD, B.S.A., F.E., *Assistant Professor of Forestry.* 1008 Michigan Avenue.

SIMON MENNO YUTZY, M.D., *Instructor in Osteology and Demonstrator of Anatomy.* 716 Church Street.

*DAVID MARTIN LICHTY, M.S., *Instructor in General Chemistry.*

WARREN WASHBURN FLORER, Ph.D., *Instructor in German.* 1114 Prospect Street.

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*Absent on leave.

JAMES BARKLEY POLLOCK, Sc.D., *Instructor in Botany.*
922 Church Street.

EWALD BOUCKE, PH.D., *Instructor in German.*
901 Oakland Avenue.

*WILLIAM HENRY BUTTS, A.M., *Instructor in Mathematics.*

ARTHUR WHITMORE SMITH, PH.D., *Instructor in Physics.*
1008 Oakland Avenue.

HARRISON McALLISTER RANDALL, PH.D., *Instructor in Physics.* 1208 Prospect Street.

FREDERICK LEVY DUNLAP, Sc.D., *Instructor in Analytical Chemistry.* 1033 East University Avenue.

*COLMAN DUDLEY FRANK, A.M., *Instructor in French and Spanish.*

JOSEPH MORRIS THOMAS, A.M., *Instructor in Rhetoric.*
1201 East University Avenue.

CARL EDGAR EGGERT, PH.D., *Instructor in German.*
930 Church Street.

*RAYMOND PEARL, PH.D., *Instructor in Zoology.*

FREDERICK CHARLES WILSON, B.S., *Instructor in Descriptive Geometry and Drawing.* 912 Forest Avenue.

ARCHIE BURTON PIERCE, PH.D., *Instructor in Mathematics.* 403 East Washington Street.

THEODORE RUDOLPH RUNNING, PH.D., *Instructor in Mathematics.* 1108 Prospect Street.

LOUIS CHARLES KARPINSKI, PH.D., *Instructor in Mathematics.* 735 South Twelfth Street.

LYMAN FOOTE MOREHOUSE, A.M., *Instructor in Electrical Engineering.* 923 Greenwood Avenue.

PETER FIELD, PH.D., *Instructor in Mathematics.*
935 Greenwood Avenue.

EDWARD BRIND ESCOTT, M.S., *Instructor in Mathematics.*
718 Monroe Street.

WILLIAM MARSHALL, M.S., *Instructor in Mathematics.*
922 Olivia Avenue.

HELEN ELIZABETH BROOKS, M.D., *Director of Physical Training in the Barbour Gymnasium.* 1024 Hill Street.

BENJAMIN FRANKLIN BAILEY, A.M., *Instructor in Electrical Engineering.* 319 East William Street.

JOHN DIETERLE, A.M., *Instructor in German.*
221 West Liberty Street.

***Absent on leave.**

CLARENCE BURTON MORRILL, A.M., *Instructor in Rhetoric.*
1827 Hill Street.

GEORGE PLUMER BURNS, PH.D., *Instructor in Botany.*
711 Arbor Street.

WILLIAM GABB SMEATON, A.B., *Instructor in Chemical Engineering.* 1009 Michigan Avenue.

HOWARD B. MERRICK, B.S., *Instructor in Surveying.*
928 Church Street.

EDWARD MILTON BRAGG, B.S., *Instructor in Marine Engineering and Naval Architecture.* 718 South Ingalls Street.

WILLIAM JAY HALE, PH.D., *Instructor in General Chemistry.* 633 Church Street.

CHARLES PHILIP WAGNER, PH.D., *Instructor in Romance Languages.* 1101 East University Avenue.

ALLEN LOOMIS, B.S., *Instructor in Mechanical Engineering.*
923 South State Street.

CHARLES JOSEPH TILDEN, B.S., *Instructor in Civil Engineering.* 1002 Cornwell Place.

CHARLES BAIRD, A.B., LL.B., *Director of Outdoor Athletics.* 910 Olivia Avenue.

FRED PARKER JORDAN, A.B., *Assistant in the General Library in Charge of Catalogue.* 923 Olivia Avenue.

BYRON ALFRED FINNEY, A.B., *Assistant in the General Library in Charge of Circulation.* 849 Tappan Street.

HENRY ORMAL SEVERANCE, A.M., *Assistant in the General Library.* 602 East Washington Street.

MYRA BEACH JORDAN, *Women's Dean in the Department of Literature, Science, and the Arts.* 923 Olivia Avenue.

GEORGE AUGUSTUS MAY, M.D., *Physical Examiner in the Waterman Gymnasium.* 611 East William Street.

HAMILTON REEVE, *Superintendent of Buildings and Grounds.*
610 South State Street.

EUGENE STEWART GILMORE, *Superintendent of the University Hospital.* 811 East Ann Street.

RUSSELL EBENEZER ATCHISON, M.D., *Superintendent of the University Hospital (Homoeopathic).* 109 Glen Avenue.

Non-Resident Instructor in Summer Session of 1905

EDWARD SAMUEL CORWIN, PH.D., *Instructor in American History.* Princeton, N. J.

Non-Resident Lecturers on Special Topics for 1905-1906

JOHN BERTRAND CLAYBERG, LL.B., *Lecturer on Mining Law and on Irrigation Law.* Helena, Mont.

MELVILLE MADISON BIGELOW, PH.D., LL.B., LL.D., *Lecturer on Insurance.* Cambridge, Mass.

HENRY HARRISON SWAN, LL.D., *Lecturer on Admiralty.* Detroit.

OSCAR RUSSELL LONG, M.D., *Lecturer on Mental Diseases (in the Homoeopathic Medical College).* Ionia.

FRANK FREMONT REED, A.B., *Lecturer on Copyright Law and the Law of Trademarks.* Chicago, Ill.

ALBERT HENRY WALKER, LL.B., *Lecturer on Patent Law.* New York, N. Y.

EDMUND ADOLPH CHRISTIAN, A.B., M.D., *Lecturer on Insanity (in the Department of Medicine and Surgery)* . Pontiac.

JAMES DECKER MUNSON, M.D., A.M., *Lecturer on Insanity (in the Department of Medicine and Surgery).* Traverse City.

WILLIAM AUSTIN POLGLASE, M.D., *Lecturer on Nervous Diseases (in the Homoeopathic Medical College).* Lapeer.

DALLAS BOUDEMAN, M.S., *Lecturer on Statute Law.* Kalamazoo.

HARLOW PALMER DAVOCK, C.E., M.S., *Lecturer on Practice in Bankruptcy.* Detroit.

CRESSY LIVINGSTON WILBUR, PH.M., M.D., *Lecturer on Vital Statistics (in the Department of Medicine and Surgery).* Lansing.

ELIJAH MARK HOUGHTON, PH.C., M.D., *Lecturer on the Preparation of Medicines (in the Department of Medicine and Surgery).* Detroit.

WILLIAM TITSWORTH REEVES, D.D.S., *Lecturer on Porcelain Inlay Filling.* Chicago, Ill.

EDWARD BARTLETT SPALDING, D.D.S., *Lecturer on Porcelain Crown Work.* Detroit.

MILTON TATE WATSON, D.D.S., *Lecturer on Orthodontia.* Detroit.

WILLIAM ADDISON STONE, M.D., *Lecturer on Insanity (in the Department of Medicine and Surgery).* Kalamazoo.

EARL H. CAMPBELL, M.D., *Lecturer on Insanity (in the Department of Medicine and Surgery).* Newberry.

EDWARD SIDNEY ROGERS, LL.B., *Lecturer on Copyright Law.* Chicago, Ill.

ROLLIN HOWARD STEVENS, M.D., *Lecturer on Dermatology (in the Homoeopathic Medical College).* Detroit.

Other Appointments for 1905-1906

THEODORE DE LEO DE LAGUNA, PH.D., *Assistant Professor of Education.* 323 East William Street.

CHARLES WALLIS EDMUNDS, A.B., M.D., *Lecturer on Therapeutics and Materia Medica.* 520 East Ann Street.

ALICE LOUISE HUNT, *Instructor in Drawing.* 1328 Washtenaw Avenue.

VERNON JUSTIN WILLEY, A.M., *Instructor in Electrotherapeutics and Director of the Roentgen Laboratory.* 308 East Madison Street.

JOHN WILLIAM SCHOLL, PH.D., *Instructor in German.* 1017 Vaughn Street.

*LYDIA MARIA DEWITT, B.S., M.D., *Instructor in Histology.*

ROBERT BROWN HOWELL, D.D.S., *Lecturer on Comparative Anatomy and Crown and Bridge Work.* 709 North University Avenue.

CHARLES CHRISTOPHER ADAMS, M.S., *Curator of the Museum.* 715 Twelfth Street.

CARL CLIFTON TARBOX, A.B., *Instructor in Rhetoric.* 706 Monroe Street.

GEORGE MILLER BARTLETT, B.S., A.M., *Instructor in Descriptive Geometry and Drawing.* 1321 Wilmot Street.

**ROGER SYLVESTER MORRIS, A.B., M.D., *Instructor in Internal Medicine and Demonstrator of Clinical Medicine in the Department of Medicine and Surgery.* 504 South State Street.

HARRISON STANDISH SMALLEY, PH.D., *Instructor in Political Economy.* 544 Thompson Street.

MARCUS LLEWELLYN WARD, D.D.S., *Lecturer on Operative Principles and Operative Technics.* 709 North University Avenue.

HENRY WILLIAM DUBEE, A.M., *Instructor in German.* 1036 Oakland Avenue.

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*Absent on leave.
**Resigned, January, 1906.

JAMES PYPER BIRD, A.B., *Instructor in French and Spanish.*
725 Twelfth Street.

GEORGE LIVINGSTONE HAMILTON, PH.D., *Instructor in French.*
538 Church Street.

JOSEPH ALDRICH BURSLEY, B.S., *Instructor in Mechanical Engineering.*
1224 Washtenaw Avenue.

RICHARD RAY KIRK, A.M., *Instructor in Rhetoric.*
1112 Washtenaw Avenue.

RICHARD DENNIS TEALL HOLLISTER, A.M., *Instructor in Elocution and Oratory.*
645 Twelfth Street.

ELMER LEROY WHITMAN, D.D.S., *Instructor in Prosthetic Technics.*
1352 Wilmot Street.

EDWARD LARRABEE ADAMS, A.M., *Instructor in Romance Languages.*
610 South State Street.

WILLIAM D. HENDERSON, A.M., *Instructor in Physics.*
609 Hill Street.

CALVIN HENRY KAUFFMAN, A.B., *Instructor in Botany.*
630 South Twelfth Street.

FREDERICK JACOB MENGER, JR., A.M., *Instructor in German.*
734 East University Avenue.

JOHN WILLIAM BRADSHAW, PH.D., *Instructor in Mathematics, and Acting Registrar of the Department of Literature, Science, and the Arts.*
530 Hill Street.

ELMORE EVEREST BUTTERFIELD, M.D., *Instructor in Pathology in the Department of Medicine and Surgery.*
912 Monroe Street.

HOWARD BRUCE MURPHEY, B.S., *Instructor in Descriptive Geometry and Drawing.*
1109 East University Avenue.

H. HAROLD HIGBIE, E.E., *Instructor in Mechanical Engineering.*
802 South State Street.

HORATIO HACKETT NEWMAN, PH.D., *Instructor in Zoology.*
901 Forest Avenue.

CALVIN OLIN DAVIS, A.M., *Instructor in Education and Inspector of Schools.*
13 Cutting Apartments.

ROY WOOD SELLARS, A.B., *Instructor in Philosophy.*
513 Thompson Street.

HARRY CONRAD THURNAU, A.M., *Instructor in German.*
930 Church Street.

WILLIAM EDWARD BOHN, A.M., *Instructor in Rhetoric.*
718 Monroe Street.

WALTER BURTON FORD, PH.D., *Instructor in Mathematics.*
617 Forest Avenue.

RUBEN WILFORD BALCOM, PH.D., *Instructor in General Chemistry.* 802 Monroe Street.

HERBERT ALDEN KENYON, A.M., *Instructor in French and Spanish.* 1118 South University Avenue.

DAVID MURRAY COWIE, M.D., *Instructor in Pediatrics in the Department of Medicine and Surgery.* 608 East Jefferson Street.

ROBERT BENNETT BEAN, B.S., M.D., *Instructor in Anatomy in the Department of Medicine and Surgery.* 621 South State Street.

WARD J. MACNEAL, PH.D., M.D., *Instructor in Histology in the Department of Medicine and Surgery.* 417 East Washington Street.

OTTO C. GLASER, PH.D., *Instructor in Zoology.* 901 Forest Avenue.

DANA B. CASTEEL, PH.D., *Instructor in Zoology.* 901 Forest Avenue.

HOBART HURD WILLARD, A.M., *Instructor in Qualitative Analysis.* 644 East University Avenue.

CLAUDE ADELBERT BURRETT, PH.B., M.D., *Director of the Homoeopathic Pathogenetic and Hospital Laboratories.* 513 East Jefferson Street.

WILLIAM ALOYSIUS McLAUGHLIN, A.B., *Instructor in French.* 920 Monroe Street.

THOMAS ERNEST RANKIN, A.M., *Instructor in Rhetoric.* 1713 South University Avenue.

KARL WILHELMJ ZIMMERSCHIED, A.B., M.S., *Instructor in Metallurgy and Quantitative Analysis.* 522 Monroe Street.

LEE HOLT CONE, PH.D., *Instructor in Organic Chemistry.* 118 North Thayer Street.

CHARLES BERRY NEWCOMER, PH.D., *Instructor in Greek and Latin.* 1227 Washtenaw Avenue.

EVANS HOLBROOK, A.B., LL.B., *Instructor in Law.* 905 Olivia Avenue.

ARTHUR E. PALMER, B.S., *Instructor in Descriptive Geometry and Drawing.* 524 Elm Street.

HARRY H. ATWELL, B.S., *Instructor in Surveying.* 623 South Division Street.

SAMUEL COLVILLE LIND, PH.D., *Instructor in General and Physical Chemistry.* 912 Monroe Street.

CHARLES BRUCE VIBBERT, A.B., *Instructor in Philosophy.*
513 Thompson Street.

*ERNEST STECK, B.S., *Instructor in Electrical Engineering.*
1020 South University Avenue.

CLYDE ELTON LOVE, A.B., *Instructor in Mathematics.*
1113 Willard Street.

WILLIAM VAN NEST GARRETSON, M.S., *Instructor in Mathematics.*
715 Monroe Street.

FRANK BURR MARSH, A.B., *Instructor in History.*
1112 Washtenaw Avenue.

JOHN R. BRUMM, A.B., *Instructor in Rhetoric.* 333 Ann Street.

HAROLD PRELL BREITENBACH, A.M., *Instructor in Rhetoric.*
639 South Twelfth Street.

J. LESLIE FRENCH, PH.D., B.D., *Instructor in Semitics.*
614 East Huron Street.

HENRY PRIME NOBLE, PH.B., *Instructor in Machine Design, and Assistant to the Superintendent of Shops.*
325 East Jefferson Street.

FRANK WILLIAM SMITHIES, M.D., *Instructor in Internal Medicine, and Demonstrator of Clinical Medicine.*
911 East Washington Street.

JOHN GARRETT WINTER, A.M., *Instructor in Greek.*
121 Glen Avenue.

JAMES PERRY BRIGGS, PH.C., *Pharmacist in the University Hospital.*
University Hospital.

JEANNE CADY SOLIS, M.D., *Demonstrator of Nervous Diseases and Electrotherapeutics in the Department of Medicine and Surgery.*
709 West Huron Street.

NORMAN ASA WOOD, *Taxidermist.*
1216 South University Avenue.

GERTRUDE ELSTNER WOODARD, B.Pd., *Assistant Law Librarian.*
301 North Grove Street, Ypsilanti.

GEORGE SLOCUM, M.D., *Demonstrator of Ophthalmology in the Department of Medicine and Surgery.*
311 South State Street.

WILLIAM HORACE MORLEY, PH.B., M.D., *Demonstrator of Obstetrics and Diseases of Women in the Department of Medicine and Surgery.*
1027 East Huron Street.

WILLIAM ROBINSON LYMAN, A.B., M.D., *Demonstrator of Otolaryngology in the Department of Medicine and Surgery.*
906 East Huron Street.

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*Resigned, February, 1906.

CHARLES ALBERT DAVIS, PH.D., *Curator of the Botanical Museum.* 303 South Division Street.

THEOPHIL KLINGMANN, PH.C., M.D., *Assistant in Diseases of the Mind and Nervous System in the Department of Medicine and Surgery.* 341 East Liberty Street.

JAMES FLEMING BREAKEY, M.D., *Assistant in Dermatology.* 727 South State Street.

CONRAD GEORG, A.B., M.D., *Second Assistant in Surgery in the Department of Medicine and Surgery.* 319 South Fifth Avenue.

FREDERICK RICE WALDRON, PH.B., M.D., *Third Assistant in Surgery in the Department of Medicine and Surgery.* 715 Church Street.

IRA DEAN LOREE, M.D., *First Assistant in Surgery in the Department of Medicine and Surgery.* 122 North Thayer Street.

EMANUEL EDWARD LUCAS, *Dispensing Accountant in the Chemical Laboratory.* 417 West Fifth Street.

BERTHA SABIN STEWART, A.B., *Assistant in the Barbour Gymnasium.* 1024 Hill Street.

FRANCES JEWETT DUNBAR, A.B., *Assistant in Zoology.* 322 South Fifth Avenue.

MYRTA WOODSON, *Principal of the Training School for Nurses in the Homoeopathic Medical College.* University Hospital (Homoeopathic).

IDA MARVIN TRACY, *Superintendent of the Training School for Nurses in the Department of Medicine and Surgery.* University Hospital.

RUSSELL WELFORD BUNTING, D.D.S., *Assistant in Oral Surgery and Dental Technics.* 511 Elizabeth Street.

ALFRED DACHNOWSKI, A.M., *Assistant in Botany.* 643 South Thayer Street.

JOHN FREDERICK SHEPARD, B.S., *Assistant in Psychology.* 513 Thompson Street.

JAMES GEORGE CUMMING, M.D., *Laboratory Assistant in the Pasteur Institute.* 615 East University Avenue.

BOYDEN NIMS, PH.G., *Assistant in Physiological Chemistry.* 403 South Main Street.

OSCAR HERMAN WURSTER, A.B., *First Teaching Assistant in General Chemistry.* 214 West Washington Street.

JAMES FREDERICK MUNSON, A.B., M.D., *Assistant in Hygiene.* 711 East Ann Street.

JOHN FOSTER EASTWOOD, PH.D., *Assistant in the Hygienic Laboratory in Charge of Water Analysis.*
236 South Thayer Street.

CHARLES FREDERICK TENNEY, JR., M.D., *Fourth Assistant in Surgery.* 122 North Thayer Street.

CHRISTOPHER GREGG PARNALL, A.B., M.D., *First Assistant in Obstetrics and Diseases of Women in the Department of Medicine and Surgery.* 632 Forest Avenue.

SAMUEL REESE HAYTHORN, M.D., *Assistant in Obstetrics and Diseases of Women in the Department of Medicine and Surgery, in Charge of Laboratory Work.*
906 East Huron Street.

DAVID MAURICE KANE, M.D., *House Physician in the University Hospital.* University Hospital.

WILLIAM J. MARSHALL, A.B., *Third Assistant in Physiology.*
907 North University Avenue.

NELSON FERRIS MACDUFF, A.B., *Assistant in Botany.*
1030 East Huron Street.

ADOLPH ZIEFLE, PH.C., *Assistant in Pharmacy.*
729 Brooks Street.

CARLOS POINTON LONG, A.B., *Assistant in Organic Chemistry.* 1030 East Huron Street.

SYBIL MAY WHEELER, PH.D., *Assistant in Hygiene.*
802 Oakland Avenue.

FRANK JOHN MELLENCAMP, A.B., *Assistant in Physics.*
934 South State Street.

ALLEN MARSHALL KLINE, A.M., *Assistant in American History.* 621 Forest Avenue.

HORACE WINCHESTER MILLER, JR., B.S., *Assistant in Mechanical Engineering.* 905 Forest Avenue.

WALTER F. HUNT, A.M., *Assistant in Mineralogy.*
1118 South University Avenue.

CHARLES W. COOK, A.B., *Assistant in Mineralogy.*
115 North Thayer Street.

HERBERT W. CLARK, A.B., *Assistant in Rhetoric.*
426 North Ingalls Street.

ALEXANDER McDONALD GRAVER, B.S., *Assistant in Mechanical Engineering.* 910 Cornwell Place.

RALZEMOND D. PARKER, B.S., *Assistant in Mechanical Engineering.* 308 Madison Street.

WALTER TURNER FISHLEIGH, A.B., *Assistant in Descriptive Geometry.* 219 South Thayer Street.

HUGO ABRAHAM FREUND, A.B., M.D., *First Assistant in Internal Medicine in the Department of Medicine and Surgery.* 924 East Ann Street.

JAMES GERRIT VAN ZWALUWENBURG, B.S., *Assistant Demonstrator of Anatomy in the Department of Medicine and Surgery.* 214 South Observatory Street.

EDWARD HOWLAND WELD, A.B., *Assistant Demonstrator of Anatomy in the Department of Medicine and Surgery.* 1034 East Huron Street.

ANNA CHRISTINE IVERSON, M.S., *Assistant Demonstrator of Anatomy in the Department of Medicine and Surgery.* 439 East University Avenue.

WALES MELVIN SIGNOR, M.D., *Second Assistant in Obstetrics and Diseases of Women in the Department of Medicine and Surgery.* 1335 Hill Street.

WALTER DANIEL CHASE, M.D., *Interne in the University Hospital.* University Hospital.

DANIEL HOLTON EATON, M.D., *Interne in University Hospital.* University Hospital.

LEWIS HENRY HECTOR, A.B., M.D., *Interne in University Hospital.* University Hospital.

FRANK TALBOT McCORMICK, M.D., *Interne in University Hospital.* University Hospital.

PAUL SCOTT MILLER, M.D., *Interne in University Hospital.* University Hospital.

EARL JESSE THOMAS, M.D., *Interne in University Hospital.* University Hospital.

HARLEN MACMULLEN, M.D., *House Physician in the University Hospital (Homoeopathic).* Homoeopathic Hospital.

BERTHA DAVIS, M.D., *House Physician in the University Hospital (Homoeopathic).* Homœopathic Hospital.

*LUCIUS AUGUSTINE FARNHAM, M.D., *Assistant in Pharmacology.* 502 East Liberty Street.

CLARENCE SNOW, B.S., *Assistant in Histology.* 1017 North University Avenue.

CHARLES W. BURROWS, A.M., *Assistant in Physics.* 1017 North University Avenue.

MAHLON ELLSWORTH OLSEN, A.B., *Assistant in English.* 709 Church Street.

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*Resigned December, 1905.

CHARLES L. HARPHAM, A.B., *Assistant in Accounting in the Department of Political Economy.* 102 Twelfth Street.

MANSON ALEXANDER STEWART, A.M., *Assistant in Latin.* 445 East University Avenue.

MYRTIE LEAH PERRIGO, A.B., *Assistant in General History.* 514 Forest Avenue.

**JAMES DEACON BRUCE, M.D., *Second Assistant in Internal Medicine in the Department of Medicine and Surgery.* 407 East Huron Street.

LEWIS EUGENE WARREN, PH.C., *Assistant in Pharmacy.* 307 South State Street.

HARRY NEWTON COLE, A.B., *Assistant in Physics.* 702 Forest Avenue.

OSWALD FREDERIC BOUCKE, A.B., *Assistant in General History.* 322 South Fifth Avenue.

WALTER WILEY DAVIS, A.B., *Assistant in Mathematics.* 210 North Ingalls Street.

HENRY WARE NEWMAN, A.B., *Assistant in Zoology.* 901 Forest Avenue.

JACOB MOYER, A.B., *Second Teaching Assistant in General and Physical Chemistry.* 327 Thompson Street.

LEON J. GIBSON, M.D., *Assistant to the Professor of Ophthalmology, Otology, and Laryngology.* 433 Hamilton Place.

FRANK EUGENE ANDREWS, B.S., *Assistant in Physics.* 516 Cheever Court.

WILLIAM WORTH HALE, M.D., *Assistant in Pharmacology.* 306 North State Street.

JAMES ALFRED BURRILL, D.D.S., *Assistant in Orthodontia and in Operative and Clinical Dentistry.* 407 East University Avenue.

**Resigned, January, 1906.

University of Michigan

THE UNIVERSITY AND THE STATE

THE University of Michigan is a part of the public educational system of the State. The governing body of the institution is a Board of Regents, elected by popular vote for terms of eight years, as provided in the Constitution of the State. In accordance with the law of the State, the University aims to complete and crown the work that is begun in the public schools, by furnishing ample facilities for liberal education in literature, science, and the arts, and for thorough professional study of engineering, medicine, law, pharmacy, and dentistry. Through the aid that has been received from the United States and from the State, it is enabled to offer its privileges, with only moderate charges, to all persons of either sex, who are qualified for admission. While Michigan has endowed her University primarily for the higher education of her own sons and daughters, it must be understood that she also opens the doors of the institution to all students, wherever their homes. It is in this broad, generous, and hospitable spirit, that the University has been founded, and that it endeavors to do its work.

ORGANIZATION OF THE UNIVERSITY

THE University comprises the following departments:—

I. THE DEPARTMENT OF LITERATURE, SCIENCE, AND THE ARTS (including THE GRADUATE SCHOOL).
II. THE DEPARTMENT OF ENGINEERING.
III. THE DEPARTMENT OF MEDICINE AND SURGERY.
IV. THE DEPARTMENT OF LAW.
V. THE SCHOOL OF PHARMACY.
VI. THE HOMOEOPATHIC MEDICAL COLLEGE.
VII. THE COLLEGE OF DENTAL SURGERY.

Each department has its special Faculty. The University Senate, a body representing all the faculties, considers questions of common interest and importance.

In a Summer Session regular courses of instruction are given in the Department of Literature, Science, and the Arts, the Department of Engineering, the Department of Medicine and Surgery, and the Department of Law.

On the completion of prescribed courses of study degrees are conferred by the University as follows: In the Department of Literature, Science, and the Arts, the degrees of Bachelor of Arts, Master of Arts, Master of Science, Doctor of Philosophy, and Doctor of Science; in the Department of Engineering, the degrees of Bachelor of Science (in Civil, Mechanical, Electrical, Chemical, and Marine Engineering, and in Naval Architecture), Master of Science, Civil Engineer, Mechanical Engineer, Electrical Engineer, Chemical Engineer, Marine Engineer, and Naval Architect; in the Department of Medicine and Surgery, the degree of Doctor of Medicine; in the Department of Law, the degrees of Bachelor of Laws and Master of Laws; in the School of Pharmacy, the degrees of Pharmaceutical Chemist, Bachelor of Science, and Master of Science (in Pharmacy); in the Homœopathic Medical College, the degree of Doctor of Medicine; in the College of Dental Surgery, the degrees of Doctor of Dental Surgery and Doctor of Dental Science.

Students in any department of the University may enter the classes in any other department, upon obtaining permission from the faculties of the respective departments.

THE LIBRARIES

The libraries of the University are the General Library, the Medical Library, the Law Library, the Homœopathic Library, and the Dental Library. They contained in the aggregate, June 30, 1905, 194,672 volumes and 4,559 pamphlets. One thousand one hundred forty-eight periodicals are regularly received.

The General Library contains 154,435 volumes, 3,800 pamphlets, and 3,050 maps. It includes the following special collections: Parsons Library (political economy), 6,076 volumes; McMillan Shakespeare Library, 5,803 volumes; Goethe Library, 1,077 volumes, The Hagerman Collection and the Dorsch Library, formerly treated as special collections, have, with the approval of the donors, been merged in the general collection. Eight hundred twenty-two periodicals are taken by the General Library.

Within the last few years the library has been enriched by several large and valuable gifts. Among the more important of these that deserve special mention are the historical books, including the Stevens Facsimiles, presented by Mr. Clarence M. Burton, of Detroit; the Morris Philosophical Library, presented by Mrs. George S. Morris; the Alpheus Felch Historical Library, bequeathed by the late Governor Alpheus Felch; the Walter Library of Romance Literature, bequeathed by the late Professor Edward L. Walter; the Stearns Musical Collection, presented by Messrs. Frederick and

Frederick K. Stearns, of Detroit; and, subject to certain conditions as to its use, the Germanic Library of the late Professor George A. Hench, presented by his mother, Mrs. Rebecca A. Hench.

The catalogue at present in public use is a manuscript card catalogue of authors and subjects. The library has recently been made one of the twenty-five depositories for a set of the printed catalogue cards issued by the Library of Congress; it has acquired a set of those printed by the John Crerar Library, of Chicago; it subscribes, also, to the card publications of the American Library Association. Within a few years, it is hoped, the bulk of the University's book possessions will be recorded in a new public catalogue based on these various series of printed cards.

Books may be drawn by all officers and students of the University, and by others having special permission. The reading room for general use will seat 300 readers. Separate rooms are provided for advanced students where work is pursued with the necessary books at hand.

The library is open for consultation fourteen hours daily during the academic year and nine hours daily during the Summer Session and summer vacation. On Sundays and important legal holidays the library is closed.

The income of the FORD-MESSER BEQUEST of $20,000, and of the COYL BEQUEST of $10,000, is used for the increase of the General Library.

THE MEDICAL LIBRARY contains 14,021 volumes and 410 pamphlets, is shelved with the General Library, and is consulted under the same regulations. Two hundred forty-one medical journals are regularly received.

THE LAW LIBRARY contains 22,495 volumes, occupies the large room on the second floor of the new law building. Twenty-one journals are taken.

THE LIBRARY OF THE HOMOEOPATHIC MEDICAL COLLEGE is shelved with the General Library, and is subject to the same regulations. It contains 2,186 volumes and 349 pamphlets. Forty-five periodicals are regularly received.

THE LIBRARY OF THE COLLEGE OF DENTAL SURGERY* is shelved in a room in the dental building. It contains several sets of valuable periodicals and many of the most important treatises on the theory and practice of dentistry. The whole number of volumes is 1,535. Nineteen dental periodicals are taken.

THE ASTRONOMICAL OBSERVATORY

The Observatory was founded through the liberality of citizens of Detroit, and on this account it is known as the Detroit Observatory. Its fixed instruments are two equatorial refractors, having apertures of twelve and one-fourth and six inches, a meridian circle of six inches aperture, and a three-inch meridian transit with zenith telescope attachment. The portable instruments include a comet seeker, surveyor's transits and theodolites, and several sextants. The Observatory is also supplied with mean and sidereal clocks and chronometers, and a chronograph.

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*Named the TAFT LIBRARY in honor of the late Professor Jonathan Taft, by action of the Board of Regents in July, 1904.

The meridian circle and larger equatorial are installed in the main observatory building, the west wing of which contains the Observatory library and connects with the residence of the Director.

The six-inch refractor and the three-inch transit are mounted in a small observatory near the main building, and are used mainly for purposes of instruction.

THE MUSEUMS

The University Museum contains collections illustrative of geology (the mineral collection, for convenience of instruction in mineralogy, being cared for in Tappan Hall), of zoology, and of anthropology. Special collections in botany, materia medica, chemistry, anatomy, and the industrial arts are deposited in the various buildings devoted to the subjects they illustrate. All of these are accessible both to students and to visitors. The University affords a secure depository for objects of value, and it is hoped that frequent gifts will be made to its several collections.

The following descriptions indicate the character of some of the collections included in the University Museum.

I. THE GEOLOGICAL COLLECTION consists of:—

a. THE MINERALOGICAL COLLECTION, comprising about 6,000 specimens. It embraces about 2,500 specimens (principally European) purchased of the late BARON LEDERER, and known as the LEDERER COLLECTION; and, besides others, a rich collection of the MINERAL SPECIES OF MICHIGAN, including all varieties of copper ore and associated minerals from the Lake Superior mining region.

b. The large series of lithological and palæontological specimens brought together by the State geological survey, of which over a hundred fossil species have become the types of original descriptions.

c. THE WHITE COLLECTION, consisting of 1,018 distinct entries, 6,000 specimens, of invertebrate fossils.

d. THE ROMINGER COLLECTION, embracing about 5,000 species of invertebrate fossils, represented by at least 25,000 specimens. The collection contains (1) the types of all the palæozoic corals described by Dr. Rominger in the Geological Report of Michigan, volume iii,—not alone the specimens figured, but numerous specimens of each species, which are not duplicates, but illustrations of different characters and varieties; (2) a collection of *Stromatoporoids*—probably the largest and finest in the world; (3) a similar collection of *Bryozoa;* (4) palæozoic fossils belonging to all the other classes; (5) European fossils of all classes and ages in large numbers—the sponges forming, with the American specimens, a collection of great interest. Since the purchase of this collection by the University, Dr. Rominger has added to it more than 250 species of invertebrate fossils, represented approximately by 1,000 specimens, among which there are many of great value.

e. SMITHSONIAN DEPOSITS, consisting, for the present, of a collection of specimens of foreign and domestic building stones, and twenty-three specimens of fossils from the Upper Missouri.

f. MISCELLANEOUS DONATIONS, COLLECTIONS, AND PURCHASES, including a series illustrative of the metalliferous regions of the Upper Peninsula, collected by the late Professor Alexander Winchell; an interesting collection of fossils, chiefly Cretaceous, from the Yellowstone Valley, presented by the late General Custer, U. S. A.; and a series of six to eight hundred rock species and varieties from the Drift of Ann Arbor, collected, dressed to standard size and form, and presented by the late Miss Eliza J. Patterson. A collection of 150 specimens of ores and rocks has recently been presented by the United States National Museum.

The entire collection, the larger portion of which consists of invertebrate fossils, is estimated to contain approximately 17,000 entries and about 60,000 specimens.

II. The ZOOLOGICAL COLLECTIONS are large and valuable. They include a series of animals from Western United States made by Lieutenant Trowbridge, and a large number of specimens from South America and the Philippines collected by Dr. Joseph B. Steere. In addition to the special collections mentioned below there are numerous specimens of invertebrates in alcohol.

The *Mammal Collection* contains a valuable series of skins in addition to the specimens on exhibition. This collection has grown rapidly through the Museum Expeditions to the Northern Peninsula.

The *Bird Collection* includes about 4,500 skins and 1,600 mounted specimens. A series of groups illustrative of special facts has been installed. In these groups the natural surroundings are reproduced in detail. The collection of skins has rapidly increased by means of the Museum Expeditions.

The *Reptile* and *Amphibian Collection* contains a good series of Michigan specimens, which on account of the variety and the number of specimens makes it the most valuable collection of its kind in the State.

The *Insect Collection* is largely a reference one and is composed chiefly of Michigan specimens. It is stored in Comstock insect boxes and occupies 8 cabinets, each provided with space for 20 boxes.

The *Mollusk Collection* includes shells of about 6,000 species, representing most of the genera of land, fresh-water and marine mollusks. The specimens on exhibition are thoroughly classified and make the collection of special value to the student.

A special effort is made to accumulate zoological specimens from all parts of the State, in sufficient quantity to permit of detailed scientific study, and, as far as circumstances will permit, capable persons will be given every advantage to study these collections.

III. THE ANTHROPOLOGICAL COLLECTIONS. Among the most notable features of this department of the Museum are:—

a. THE ORIENTAL SECTION, including the entire Chinese Collection mentioned below, weapons, clothing, farm implements, carpenters' tools, porcelains, and idols from China, Formosa, and the Philippines, secured by the Beal-Steere Expedition, and an interesting series of South Sea Island weapons, presented by the Smithsonian Institution.

In 1885 the Chinese government presented to the University the exhibit which it sent to the New Orleans Exposition. A part of the collection, numbering several thousand specimens, is on exhibition in the museum building. It illustrates with special fullness the varieties of Chinese cotton, the Chinese processes of manufacturing cotton. and the finished products of cotton and silk. There are many articles showing the skill of the Chinese in working in wood, in ivory, and in porcelain, in embroidery, and in painting on glass and on silk.

b. THE STEARNS COLLECTION of musical instruments, comprising over 1,400 typical instruments of all nations—ancient and modern, civilized and savage—illustrating the history of music and the progress of musical art.

c. The collection of Peruvian and New Mexican ceramics, including an exceptionally fine series of ancient Peruvian burial pottery and modern basins secured by the Beal-Steere Expedition, and an extensive series of New Mexican pottery received from the Smithsonian Institution.

d. The modern Indian section, including wearing apparel, implements of war and the chase, and household utensils of the South American, North American, and the Alaskan Indians, and a fine example of the Alaskan totemic column.

e. The Stone Age section, including the local collection of the late David De Pue, a series of Danish implements, and a series of casts of rare implements prepared by the Smithsonian Institution.

MUSEUM OF THE FINE ARTS AND HISTORY

The works of art belonging to the University are on exhibition in the galleries provided for them in the library building. A printed catalogue, prepared by Professor Martin L. D'Ooge, contains fuller descriptions than can here be given. The collection was begun in 1855. It contains a gallery of casts, in full size and in reduction, of some of the most valuable ancient statues and busts, such as the Apollo Belvedere, the Laocoon, and the Sophocles; more than two hundred reductions and models in terra cotta and other materials; the statue of Nydia by Randolph Rogers; casts of modern statues, busts, etc., and reliefs; a number of engravings and photographic views, illustrating especially the architectural and sculptural remains of Ancient Italy and Greece; a small collection of engraved copies of the great masterpieces of modern painting; two series of historical medallions—the HORACE WHITE COLLECTION and the GOVERNOR BAGLEY COLLECTION—the former illustrative of ancient, mediæval, and modern European history, the latter designed to embrace the commemorative medals struck by order of Congress or other authorities, and now containing one hundred such medals; and a large collection of coins, chiefly Greek and Roman, presented to the University by the late Dr. Abraham E. Richards.

THE ROGERS GALLERY comprises the entire collection of the original casts of the work of the late Randolph Rogers, more than a hundred in number. It was given by that distinguished sculptor to the State of Michigan for the University museum.

The LEWIS GALLERY, bequeathed to the University by the late Henry C. Lewis, of Coldwater, comprises about four hundred and fifty paintings and forty pieces of statuary.

Through the generosity of Mr. Henry P. Glover, of Ypsilanti, the University has recently acquired possession of the valuable De Criscio collection of Latin inscriptions, about 250 in number, ranging in age from the reign of Augustus to the 5th century, A. D. The most of the inscriptions are on slabs of marble.

The late J. Q. Adams Fritchey, A.M., of St. Louis, Mo., a graduate in the Class of 1858, bequeathed to the University a collection of modern coins, medals, and medallions, numbering about one thousand, issued prior to 1876, and possessing historic value and interest to numismatists.

Dr. Henry Smith Jewett (A.B., 1868), of Dayton, Ohio, has recently presented to the University a complete set of the various issues of fractional currency put out by the United States government during the Civil War and Reconstruction periods. Accompanying this collection is a nearly complete set of the "documentary" stamps issued by the government during the Civil War.

SPECIAL COLLECTIONS AND MUSEUMS

THE BOTANICAL COLLECTION is shelved in the botanical laboratory, and contains, in addition to Michigan plants collected by the public surveys, several valuable herbaria and sets of plants that have been presented to the University from time to time. Among these some of the most important are the HOUGHTON HERBARIUM, the SAGER HERBARIUM, the AMES HERBARIUM, the HARRINGTON COLLECTION, the BEAL-STEERE BOTANICAL COLLECTION, the ADAMS-JEWETT COLLECTION, and the GARRIGUES COLLECTION, all of which have been described in Calendars of previous years.

Among the more recent acquisitions are Collins, Holden, and Setchell's Phycotheca Boreali-Americana, Briosi and Cavara's Funghi Parasiti, Seymour and Earle's Economic Fungi, Ellis's North American Fungi, presented by Mr. Joseph B. Whittier, large additions to the cryptogamic flora of Michigan, arranged and catalogued by the late Mr. Lorenzo N. Johnson, and nearly 2,000 species of plants, mostly phanerogams, collected by Mr. Lewis Foote while engaged in the United States Lake Survey, and presented by him to the University.

In addition to these *exsiccati*, there is an extensive collection of material mounted in alcohol or formalin in museum jars, illustrating the biological relations of plants.

The collections in PHARMACOGNOSY and INDUSTRIAL CHEMISTRY occupy a floor space of 2,500 square feet in the chemical building, and are briefly described as follows:

The PHARMACOGNOSY COLLECTION comprises several thousand mounted and labeled specimens of products from all parts of the world, such as are used for medicinal, alimentary, and industrial purposes. The articles are of vegetable and of animal origin, and are arranged in the present system of scientific classification. Water-color plates and photographs, showing the form and habit of the plant, accompany the crude drugs and their products. Series of chemical constituents, isolated by students, and mounted in part in the relative proportions in which they exist in the plant, make up a phytochemical exhibit of composition. There is a set of drawings and wall-charts of the histological structure of drugs, foods, and condiments, for aid in the study of adulterations, together with photomicrographs of longitudinal and transverse sections.

The cultivation and preparation for the market and the commerce of these articles among the peoples of the earth, are illustrated by collections of authentic photographs, many of which have been expressly procured for the study of commerce with distant parts of the world.

CHEMICAL INDUSTRY.—In this collection the natural resources and chief manufactures of Michigan, and of various parts of the world, are illustrated. Crude materials, raw and unfinished products, as well as completed articles of commerce in their several grades are displayed, together with models and plans of production by modern methods. Among the branches of industry and articles of manufacture represented are petroleum products; Portland cement; clay wares; the beet-sugar manufacture; the great alkali works; starches, oils, and other maize products; wood distillation; the coal-tar dyes. These illustrations of the several branches of chemical technology. are for the most part subject to continuous change from the results of the work of the laboratory and the material offered for investigation.

The MUSEUM OF ANATOMY and MATERIA MEDICA and the DENTAL MUSEUM are housed in the buildings of the Medical and the Dental Departments, respectively, and are described in the chapters devoted to those departments.

THE LABORATORIES

In the several laboratories of the University opportunities are provided for practical instruction in physics, chemistry, geology, zoology, psychology, botany, forestry, actuarial work, engineering, histology, physiology, hygiene, electrotherapeutics, pathology, anatomy, and dentistry.

The laboratories designed primarily for students of engineering, of medicine, and of dentistry are described in the chapters devoted to the engineering, the medical, and the dental departments.

PHYSICAL LABORATORY

The basement of the physical laboratory, the floor of which is only two feet below grade, is devoted to the experimental work in heat, electricity and magnetism. It contains twelve rooms, including one for photometry and one for a large storage battery for experimental purposes. Current from this battery and from the University power house is available in all these rooms.

On the first floor are two lecture rooms, one seating one hundred twenty and the other four hundred twenty students. An apparatus room is adjacent to each lecture room. This floor contains in addition a large laboratory for beginners, two auxiliary rooms, and a suite for the office of the director.

The second floor contains eleven rooms, the largest of which is used as a second laboratory for beginners. The others are devoted to sound, light and electro-chemistry.

The laboratory is supplied with apparatus from the best European and American makers. It is particularly well equipped in sound, light, and electricity. The annual budget allows the addition each year of apparatus to illustrate recent advances in physics. The new addition to the building happily provides more room for the work of graduate students.

CHEMICAL LABORATORY

The chemical laboratory occupies a centrally located building which has a floor space of over fifty thousand square feet. More than four hundred students pursue laboratory courses during each semester. About fifty courses are offered during the college year, most of which involve laboratory work. The building contains a reading room in which are shelved the most frequently required reference books and a few duplicate sets of chemical journals. The main portion of the chemical library is readily accessible in the adjacent library building, and is especially valuable to the research student because of its forty-nine complete sets of journals devoted wholly or in large degree to chemistry.

In addition to a full supply of routine materials and apparatus for work in general, analytical, organic, physical, pharmaceutical and technological chemistry, facilities are offered for advanced study and research along many lines. For the preparation of raw materials, there are adequate grinding mills, both hand and power, for a wide variety of work. A continuous extraction apparatus holding twenty liters, a hydraulic press capable of exerting a pressure of five thousand pounds per square inch, a small filter press and a power-driven centrifugal machine are also provided. Direct current is available at various voltages from storage batteries, rotary transformers, and the 220-volt power plant for electrochemical or electrothermal work. There are various types of resistance, resistor and arc furnaces as well as oil and gas fired furnaces for high temperature work, and both electrical and optical pyrometers. The laboratory is well equipped with apparatus for the most delicate measurement of resistance and electro-motive force. Facilities are provided for the preparation and microscopic or photomicrographic examination of specimens either in thick polished section by vertical illumination or in thin section by either plane or polarized light. Five ventilated dark rooms provide for spectroscopic, photometric, and photographic work and experiments in refraction. Sixty analytical balances are distributed in four balance rooms and in private laboratories, and others for heavier loads or of greater delicacy are reserved for special purposes. An especially accurate balance is placed in a constant temperature room.

MINERALOGICAL LABORATORY

The mineralogical laboratory occupies the basement of Tappan Hall and consists of eight rooms with about 6,000 square feet of floor space. One large room is used for general laboratory purposes, a second for work in blowpipe methods, while a third contains the mineralogical collections. There is also a commodious lecture room as well as several small dark rooms adapted for goniometric measurements.

The general laboratory is well equipped with crystal models, natural crystals, and working collections for the rapid determination of minerals, principally by means of the physical properties. It is also equipped with goniometers and polarization microscopes. The blowpipe laboratory possesses ample facilities for the carrying out of blowpipe tests, both upon plaster tablets and charcoal, as well as all other chemical reactions useful in the determination of minerals. The mineralogical collections include the Lederer, Garringer, and Rominger collections.

GEOLOGICAL LABORATORY

Opportunity for practical work in geology is provided in rooms set apart for this use in the museum building. The rooms are furnished with microscopes, photographic instruments, cutting and polishing lathes, and other apparatus for the preparation of specimens. Special encouragement and assistance are given to students wishing to carry on original investigations.

BOTANICAL LABORATORY

In the botanical laboratory instruction is given in the practical study of the structure, development, and physiology of plants, and opportunity is offered for investigation in cellular biology, in embryology and development, in physiology, pathology, and ecology.

Students in the more elementary courses have constant personal assistance and direction from the instructors; the advanced courses require more independent work. Every facility within the means at command will be provided for those capable of doing the work in research.

The laboratory comprises five large rooms for general work, five smaller rooms for the work of instructors and investigators, a room for alcoholic material, dark rooms, and store rooms. The section assigned to morphology and cytology is provided with microscopes (among them a Zeiss microscope with mechanical stage, apochromatic objectives, and compensation oculars), camera lucidas, polarizing apparatus, and photographic camera; Cambridge, Minot-Zimmermann, Jung, and freezing microtomes; sterilizers, means for imbedding, stains and reagents, Wardian cases, and aquaria. The equipment for physiology, besides work rooms provided with chemicals and general apparatus, includes a conservatory, a dark room with constant temperature, incubators, sterilizers, horizontal microscope, balances, thermographs, barometer, auxanometers, klinostats, and centrifuges. The heavier apparatus is driven by water motors and an electric motor. There is a good working library in the laboratory, containing, besides many monographs, the leading French, German, and English periodicals.

ZOOLOGICAL LABORATORY

The zoological laboratory comprises twenty rooms in the second and third stories of the south wing of University Hall, with about 8,000 square feet of floor space; it is lighted by fifty-six windows. There is a large room for the elementary work of students, and three smaller rooms for more advanced work. These rooms accommodate sixty-six students at one time. There is a room for the housing of small mammals, a room for storage, and a room in which a reference library is shelved. The instructors in charge have private rooms; and three small rooms, each accommodating one or more persons, are used by students engaged in investigation. These rooms are provided with water and gas, and are fitted with tables especially designed for the work. A room for work in experimental zoology, a small lecture room, and a photographic room have been equipped, each for its special use. There are also rooms set apart in the museum building for the use of persons engaged in the study of museum material.

Suitable provision has been made for the study of animals inhabiting the neighboring waters. There are sixteen large aquaria (the largest seven feet long), and there are arrangements for maintaining thirty small aquaria for the rearing of embryos and the study of isolated forms.

There is a good equipment of microscopes, including a Zeiss microscope with apochromatic lenses, of microtomes, of Zeiss's photographic apparatus, and of other accessories. For illustrative purposes, there is a collection of alcoholic specimens (many of them from the Naples Zoological Station), a full collection of Leuckart, Nitsche's, and Lendenfeld's wall charts, and a small collection of Ziegler's models in wax and Blaschka's models in glass. For field work there are provided collecting apparatus and field glasses for the individual use of students and photographic cameras, boats, and larger pieces of collecting apparatus for collective use.

PSYCHOLOGICAL LABORATORY

The psychological laboratory is situated in a detached building in a quiet part of the campus. It contains fourteen rooms of various sizes for general laboratory work and research, including two dark rooms with outside windows. The rooms are all wired so that they can be connected electrically or be supplied with low potential currents from a dynamometer and storage batteries. The rooms are amply supplied with water and gas. Sufficient power for all purposes is furnished by electric motors.

The equipment includes a complete set of apparatus for the work of elementary experimental classes, models of the brain and sense organs, a Hipp chronoscope, kymographs, a large pendulum and gravity chronograph to regulate the registration apparatus, the minor accessories for reaction work, Meumann's time sense apparatus, the Marbe color mixer, a practically complete set of Hering's instruments for color determinations, the various instruments made by Verdin for recording the movements of the vocal organs, a fall phonometer of improved design, a hydraulic air compressor for blowing the siren and Appunn's reeds, an Ellis harmonical, forks by Koenig, Edelmann, and Appunn, a Stern tonvariator, and an unusually complete series of instruments for recording variations in circulation, respiration, and voluntary effort under the influence of mental states. In addition, there are many of the usual instruments for work in other lines. Such apparatus as is needed for advanced work or research will be procured as required. Every facility and encouragement is offered to students of sufficient preliminary training to undertake investigation on some special problem.

FORESTRY LABORATORY

In the forestry laboratory students receive instruction in forest botany, timber physics, structure of woods, and certain features of wood technology, as well as in forest measurements and the methods of study of the growth of timber. A good collection of wood specimens, sections of trees, and herbarium material is provided and will be increased as rapidly as possible. There is an ample supply of microscopes, compasses, calipers, height measures, and other apparatus for use in the laboratory and in the field.

SAGINAW FOREST FARM

Special facilities for the study of forestry are supplied by the Saginaw Forest Farm, a tract of land about one mile west of the city of Ann Arbor, presented to the University by the Honorable Arthur Hill, of Saginaw. The farm, comprising eighty acres, is a typical example of the low hilly land of the drift district, and contains as great a variety of topographical and soil conditions as could be expected in an area of this extent. Its soils vary from heavy clay to sandy gravel. In addition to its other good features, there is a lake of clear water, from ten to fifty feet deep and covering an area of twelve acres.

The farm is to serve as an object lesson in forestry. Upon it provision is to be made for (1) an arboretum of all useful forest trees that can grow in Michigan; (2) demonstrative areas for seedbed and nursery work; (3) model plantations of forest trees, and (4) special experiments in forestry, relating to various methods of propagating different kinds of timber, to the raising of particular forest products, and to other practical purposes.

STATISTICAL LABORATORY

This laboratory is equipped with various instruments to facilitate the computation and tabulation of statistics; among these may be mentioned one twenty-figure Millionaire arithmometer, one sixteen-figure Millionaire arithmometer, one sixteen-figure Tate arithmometer, one thirteen-figure Brunsviga arithmometer, several adding machines, and a tabulating typewriter. Students are instructed in their use and in the preparation and tabulation of premiums, reserves, and other schedules required in the practical work of insurance offices and statistical bureaus. The laboratory also contains a working library comprising complete sets of most of the important actuarial journals and text books on actuarial theory. Reports on vital and other statistics are drawn from the general library when required.

OTHER FACILITIES FOR INSTRUCTION

For descriptions of the various laboratories, shops, museums, etc., used in connection with the work in the professional departments, see the chapters on the several departments.

THE HOSPITALS

There are two hospitals connected with the University, affording ample facilities for clinical instruction. One of them is under the direction of the Faculty of the Department of Medicine and Surgery: the other is in charge of the Faculty of the Homœopathic Medical College. Further information in regard to the hospitals is given in the chapters on the medical departments.

AIDS TO MORAL AND RELIGIOUS CULTURE

The churches of the city of Ann Arbor are cordially thrown open to the students, whose interests are largely consulted by the pastors in their pulpit instruction and in their plans of work. There are churches of the following communions in the city: Baptist, Congregationalist, the Disciples, English Lutheran, German Lutheran, German Methodist, Methodist Episcopal, Presbyterian, Protestant Episcopal, Roman Catholic, and Unitarian.

The Students' Christian Association,* which has a large membership, holds stated meetings for religious and for social improvement. Through the enterprising efforts of the association and the benevolence of those interested in its aims, a spacious and beautiful building, called Newberry Hall, has been erected for its use opposite the University campus.

The University Young Men's Christian Association has its home in McMillan and Sackett Halls, corner of State and Huron Streets, and is organized for Christian work among the young men of the institution. It is affiliated with the World's Student Christian Federation, and employs a general secretary who spends his entire time in the interest of the association.

The University Young Women's Christian Association, organized in 1901, has a present membership of more than eighty. It is affiliated with the state and the national associations. Its meetings are held in Newberry Hall.

Guilds and other societies, consisting chiefly of students, have been organized in several of the churches both for religious and moral culture and for social entertainment. The Hobart Guild, connected with St. Andrew's Church (Protestant Episcopal), has a commodious building, called Harris Hall, planned and equipped for the objects of the guild; and two of the several lectureships contemplated in its plans, have been endowed,—the Baldwin Lectureship for the Establishment and Defense of Christian Truth, and the Charlotte Wood Slocum Lectureship on Christian Evidences. The Tappan Presbyterian Association occupies the building known as McMillan Hall; it owns a theological library of several thousand volumes, and one of its purposes is to maintain annual courses of lectures upon church history and church work. The Methodist Episcopal Church has organized the Wesleyan Guild, and has a permanent fund for the support of the Henry M. Loud Lectureship. The Baptist Church has organized the Baptist Guild. Its work is conducted in the Guild Hall, on Huron Street, opposite the church, and is supported by the Baptist State Missionary Board. The Young People's Religious Union is a society formed in the Unitarian Church with similar purposes. The Foley Guild is an organization of Roman Catholic students under the patronage of the Rt. Reverend John S. Foley, bishop of the diocese. The society organized in connection with the Church of the Disciples is called the Inland League.

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*The three Christian Associations of the University are so united, that both the young men and young women are members of the Student's Christion Association, while retaining membership in their separate organizations.

FACILITIES FOR PHYSICAL CULTURE

Gymnasiums.—The University has two gymnasiums, one for men and one for women, erected at a cost of about $125,000. The former is called the Waterman Gymnasium; the latter, the Barbour Gymnasium. In the conduct of the gymnasiums the aim is not so much the development of a few gymnastic experts as the provision of wholesome physical exercise for the many. The facilities of the buildings, including physical examinations and instruction, are free to all students, the only charge being a rental of $2 a year for a locker. A physical examination and a stated amount of gymnasium work in regular classes are required of students in the Department of Literature, Science, and the Arts, and in the Department of Engineering, during their first year of residence at the University. For other students, gymnasium work, for the present, is voluntary.

The Waterman Gymnasium.—The Waterman Gymnasium was named in honor of the late Joshua W. Waterman, of Detroit, who contributed largely to its cost. The main floor is a rectangle with truncated corners and dimensions of 150 by 90 feet, and is well equipped with the various kinds of apparatus usually found in the best modern gymnasiums. Several smaller rooms are devoted to administration, fencing, boxing, and other special purposes, while the basement is given up to baths and lockers. The main hall is lighted in the daytime through a large skylight 66 feet above the floor, and in the evening by electricity. A gallery makes room for an elliptical running track 375 feet in length.

The Barbour Gymnasium.—The Barbour Gymnasium is named in honor of the Honorable Levi L. Barbour, of Detroit, a Regent of the University and a liberal contributor to the funds for its erection. The main floor has dimensions of 90 by 88 feet, and contains the apparatus required for the first and the second year exercises. The building contains parlors for the accommodation of the women and a commodious hall (called the Sarah Caswell Angell Hall) for lectures, meetings, theatrical entertainments, etc. The gymnasium proper is thoroughly equipped with the usual apparatus, a swimming tank, and bathing facilities. The Women's Dean and the Director of the gymnasium have organized the work in accordance with the best known methods. Special care is taken to ascertain the exact physical condition of each student entering upon gymnasium work, defects of the body are discovered, and corrective work is prescribed for all who need it. Tennis, basket ball, and gymnastic games form a part of the recreative work.

Dexter M. Ferry Athletic Field.—By the generosity of Mr. Dexter M. Ferry, of Detroit, an addition of twenty acres has been made to the grounds formerly known as Regents' Field. The combined tract of thirty acres lies a few minutes' walk southward from the campus, and is set apart and equipped especially for open-air sports.

Supervision of Athletic Sports.—The general supervision of athletic sports is vested in a Board of Control, consisting of nine members, five of whom are chosen from the University Senate, and four chosen by the students of the University.* The Board thus constituted has charge of all matters involving the relation of athletic sports to the University; for example, the eligibility of players proposed for any University team, the arrangement of intercollegiate games, the granting of leaves of absence, and the investigation of charges of misconduct on the part of players. The policy of the Board is to foster the spirit of honor and gentlemanliness in athletics, to suppress evil tendencies, and to see that play shall not encroach too much upon the claims of work. For the furtherance of these ends certain specific rules and regulations have been adopted, a copy of which can be had on application to the Secretary of the University.

ORATORICAL ASSOCIATIONS

In addition to the University instruction in elocution and oratory, an active and earnest interest in public speaking is fostered and maintained through the agency of voluntary associations of students, which arrange and conduct debates and contests and co-operate with similar organizations in other institutions.

UNIVERSITY ORATORICAL ASSOCIATION

The University Oratorical Association was organized by students of the Department of Literature, Science, and the Arts, and of the Department of Law, under the guidance of the professor of elocution and oratory, to foster an interest in oratory and debate, and also to participate in the annual contests of the Northern Oratorical League and of the Central Debating League, and in such other contests as may be arranged by the association.

At the annual oratorical contest held the third Friday of March, the students who take first and second honors, respectively, are chosen to represent the University as orator and alternate in the annual contest of the Northern Oratorical League. In 1905 the first and second honors were awarded, respectively, to Hugo Sonnenschein and Kiyosue Inui.

Kaufman Testimonial.—Nathan M. Kaufman, of Marquette, Michigan, provides annually $150, to be awarded as follows: $100 to the student who shall win first honor in the University Oratorical Contest, and $50 to the student who shall win second honor.

Chicago Alumni Medal.—The Chicago Alumni Association of the University of Michigan offers annually a bronze medal as a testimonial for excellence in oratory. The medal, designed by Mr. Louis H. Sullivan, of Chicago, is given to the student who is awarded the first honor in the University Oratorical Contest.

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*The Board of Control for the year 1905-1906 consists of Professor Pattengill, Chairman, Professor Lane, Professor McLaughlin, Professor McMurrich, Professor Sadler, Harry C. Stevenson, John S. Curtis, David L. Dunlap, and Charles C. Moore. Mr. Charles Baird is Director of Outdoor Athletics.

NORTHERN ORATORICAL LEAGUE

The Northern Oratorical League is composed of the oratorical associations of the University of Michigan, Northwestern University, the University of Wisconsin, Oberlin College, the State University of Iowa, the University of Chicago, and the University of Minnesota. Its purpose is to foster an interest in public speaking and to elevate the standard of oratory, by holding annual contests. The contests are open only to undergraduates.

Lowden Testimonial.—To encourage public speaking in the universities whose oratorical associations compose the Northern Oratorical League, Mr. Frank O. Lowden, of Chicago, has established an endowment fund, amounting to $3,500, and placed it in the hands of the Regents of the State University of Iowa, as trustees. From the interest annually accruing therefrom the sum of $100 is awarded to the person receiving first honor at the annual contest of the Northern Oratorical League and $50 to the person receiving second honor.

HAMILTON CONTEST

In 1903 the Hamilton Club, of Chicago, instituted a contest among the following institutions: The Universities of Michigan, Wisconsin, Illinois, Indiana, Iowa, Chicago, and Minnesota, Northwestern University, and Knox College. The contest occurs each year on January 11, Hamilton's birthday. Of the representative orations from the universities only the four judged highest in thought by a committee appointed for that purpose are delivered at the final contest. The subject of the orations must be Hamilton or his contemporaries, or the events with which he had to do.

The student who shall win the right to speak in the final contest may become a member of the Hamilton Club within two years without initiation fee. In the contest of 1905, Hugo Sonnenschein was the representative from the University of Michigan, and was awarded second honor in the final contest.

Hamilton Testimonial.—The Hamilton Club offers as a testimonial $150, to be awarded as follows: $100 to the student winning first honor, and $50 to the student winning second honor. The Michigan student winning the right to speak in the final contest will also be allowed by the club $25 for his expenses and $5 for the printing of his oration.

CENTRAL DEBATING LEAGUE

The Central Debating League is composed of the debating associations of the University of Michigan, the University of Minnesota, Northwestern University, and the University of Chicago. Its purpose is to discuss, in public, leading questions of the day, and in this way to develop ready and useful speakers.

The four universities are arranged in two groups for the semifinal debates, which are held the third Friday in January. On the second Friday in April each year the winners from the groups meet in a final debate in the city of Chicago.

The men who represent the University of Michigan in the Central League Contests are chosen at the Annual Interdepartment Debate, held the week before Thanksgiving recess. The men chosen for the debates of 1905 were Charles Edward Blanchard, Ernest Milton Halliday, and Ira Waite Jayne.

Carharrt Testimonial.—To encourage the interest in debating in the University Mr. Hamilton Carharrt, of Detroit, has established a testimonial of $150, to be divided equally among the debaters who represent the University in the Central Debating League.

League Testimonial.—The Central Debating League guarantees annually $200, to be distributed as follows: $150 to the side winning the final debate; $50 to the side losing.

WISCONSIN-MICHIGAN DEBATE

The fifth annual debate arranged between the University of Michigan and the University of Wisconsin will be held in Ann Arbor, Michigan, March 23, 1906.

The men who represent the University ot Michigan in this contest are chosen at the Annual Interdepartment Debate, held the week before Thanksgiving recess. The men selected to represent the University in the debate of 1905 were James Edward Burkey, Edwin James Kenny, and John Albert Rippel.

Ferry Testimonial.—Through the generosity of Mr. Dexter M. Ferry, of Detroit, an annual testimonial of $150 has been provided, to be distributed equally among the debaters who represent the University in the Wisconsin-Michigan debate.

Alger Medals.—Senator Russell A. Alger contributes annually $75.00 for the purpose of furnishing appropriate medals for the Honor Debaters of the University. These medals are awarded to the six men who appear in the intercollegiate debates.

CUP DEBATE

In May, 1898, the Detroit Alumni Association presented the University Oratorical Association with a silver loving-cup, and requested that it be competed for annually by the Alpha Nu and Adelphi Societies in the Department of Literature, Science, and the Arts, and the Webster and Jeffersonian Societies in the Department of Law. The society which wins the cup the greatest number of times in twenty years is to hold it as a permanent trophy. The annual cup debate is held the second Friday in May. In these contests students who have previously won a University honor in debate, or have been members of a winning cup team, are ineligible to compete. In 1905 the cup debate was won by the Webster Society.

OTHER UNIVERSITY ORGANIZATIONS

Lecture Association.—The Students' Lecture Association provides each year, at a low price for admission, an attractive course of lectures.

Choral Union.—The Choral Union is an organization of students and others, for study and practice of choral music under the direction of the professor of music in the University, and for the promotion of general musical culture. Under its auspices, and with the co-operation of the University Musical Society,* the following course of concerts is announced for the year 1905-1906:

I. November 24, 1905, Pittsburg Orchestra, Emil Paur, Conductor.
II. December 12, 1905, Hugo Heermann, violinist.
III. January 18, 1906, Raoul Pugno, pianist.
IV. February 2, 1906, George Hamlin, Song Recital.
V. March 14, 1906, Kneisel Quartette.

THIRTEENTH ANNUAL MAY FESTIVAL

VI. Thursday Evening, May 10, 1906, "Stabat Mater," Dvorak.
VII. Friday Afternoon, May 11, 1906, Symphony Concert.
VIII. Friday Evening, May 11, 1906, Miscellaneous Concert.
IX. Saturday Afternoon, May 12, 1906, Miscellaneous Concert.
X. Saturday Evening, May 12, 1906, "Aida," Verdi.

The Columbian Exposition Organ, purchased for the University and now known as the Frieze Memorial Organ, in memory of the late Professor Henry Simmons Frieze, is used in this course of concerts.

Other Organizations.—There are several organizations of University officers and students established and maintained for the reading of papers and the holding of conferences on topics of interest that do not fall within the scope of ordinary class-room work; and some of these also aim to secure each year public addresses, by speakers of prominence, on subjects germane to the purpose of the organization.

The students of the Department of Law arrange annually for a celebration of Washington's birthday. The address in 1905 was given by the Honorable John J. Lenz, of Columbus, Ohio.

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*The University Musical Society is a body corporate under the laws of the State of Michigan. It has no organic connection with the University, though its membership is restricted to past and present University officers and students. This society has established the University School of Music in Ann Arbor, in which systematic instruction is given in vocal and instrumental music, such as the University cannot undertake to provide. The conditions under which University credit may be obtained for work in the School of Music may be ascertained by conference with the Professor of Music. A series of ten chamber concerts is included in its annual programme. Catalogues of the school can be had by applying to Professor A. A. Stanley.

ATTENDANCE AND DISCIPLINE

The State of Michigan extends the privileges of the University, with only moderate charges, to all persons of either sex who are qualified for admission. Thus it does not receive patronage, but is itself the patron of those who seek its privileges and its honors. It cannot, however, be the patron of idleness or dissipation. Its crowded classes have no room except for those who assiduously pursue the studies of their choice, and are willing to be governed in their conduct by the rules of propriety.

Students not in their places at the opening of the semester must present written excuses from their parents or guardians for the delay.

Such delinquencies as tardiness, absence, deficiencies, and offences against good order, in the several departments of instruction, are ordinarily dealt with by the instructor in charge of the department in which they occur. Flagrant cases are reported to the Faculty for adjudication.

Students are suspended or dismissed whenever, in the opinion of the Faculty, they are pursuing a course of conduct seriously detrimental to themselves or the University.

The following is a By-law of the Board of Regents:—

"Whenever any Faculty is satisfied that a student is not fulfilling, or likely to fulfill, the purpose of his residence at the University, or is for any cause an unfit member thereof, the President shall notify his parents or guardians, that they may have an opportunity to withdraw him, and if not withdrawn within a reasonable time, he shall be dismissed."

RELATION OF STUDENTS TO THE CIVIL AUTHORITIES

Students are temporarily residents of the city, and like all other residents, are amenable to the laws. If guilty of disorder or crime, they are liable to arrest, fine, and imprisonment. A rule of the University Senate provides that if a student is arrested, or is convicted of any offence by the civil authorities, he shall be cited to appear before the Faculty of the department in which he is matriculated, and shall be liable to suspension or expulsion.

FEES AND EXPENSES

Matriculation Fee.—Every student, before entering any department of the University, is required to pay a matriculation fee. This fee, which, for a citizen of Michigan, is ten dollars, and for a person who comes from any other state or country, twenty-five dollars, is paid but once, and entitles the student to the privileges of permanent membership in the University.

Annual Fees.—In addition to the matriculation fee, every student has to pay an annual fee for incidental expenses, and, in some departments, a small additional fee for special purposes. These fees are paid the first year of residence at the University, and every year of residence thereafter. Resident graduates are required to pay the same annual fees as undergraduates. The annual fees in the several departments of the University are as follows:

Department of Literature, Science, and the Arts: for Michigan students, thirty dollars; for all others, forty dollars. The fee required from graduate students who are granted the privilege of pursuing studies for an advanced degree *in absentia* is ten dollars for each year of registration. Students in this department who are pursuing a combined course, and, in consequence, are registered at the same time in one of the professional departments, are required to pay the annual fee due from students in such professional department.

Department of Engineering: for Michigan students, forty-five dollars; for all others, fifty-five dollars. The fee required from graduate students who are granted the privilege of pursuing studies for an advanced degree *in absentia* is ten dollars for each year of registration.

Department of Medicine and Surgery: for Michigan students, forty-five dollars; for all others, fifty-five dollars. The fee required from graduate students who pursue special advanced laboratory courses in this department is, in addition to the ordinary laboratory expenses, ten dollars for each course taken.

Department of Law: for Michigan students, forty-five dollars; for all others, fifty-five dollars. A library fee of two dollars a year is also required of all students in this department.

School of Pharmacy: for Michigan students, forty-five dollars; for all others, fifty-five dollars.

Homœopathic Medical College: for Michigan students, forty-five dollars, for all others, fifty-five dollars.

College of Dental Surgery: for Michigan students, forty-five dollars; for all others, fifty-five dollars. A further charge of three dollars a year is made to cover the cost of certain special supplies provided by the University.

The **matriculation fee** and the **annual fees** must be paid at the beginning of the college year. A by-law of the Board of Regents provides that no student or graduate shall be allowed to enjoy the privileges of the University until he has paid all fees that are due. Holders of fellowships and of scholarships are required to pay the matriculation fee (if not already paid), the annual fees, the diploma fee, laboratory expenses, and other similar charges, the same as other students of the department in which their work lies.

Fee for Special Entrance Examinations.—In the Department of Literature, Science, and the Arts, and in the Department of Engineering, an applicant for admission who presents himself for the entrance examinations at a date later than that announced in the

University Calendar is required to pay the University Treasurer a fee of five dollars before he can receive permission to take the examinations.

Laboratory Expenses.—Students who pursue laboratory courses of study are required to pay for the materials and apparatus actually consumed by them. The deposits required in advance are different for the different courses, ranging from one to twenty dollars. The laboratory expenses of students vary with their prudence and economy. In the chemical laboratory the average expense for each course is about one dollar and twenty cents a week.

Demonstration Courses.—A fee of ten dollars is charged for each of the demonstration courses given in the Department of Medicine and Surgery.

Gymnasium Expenses.—A charge of two dollars a year is made for the rental of a locker.

Graduation Fee.—The fee for graduation is ten dollars. The by-laws of the Board of Regents prescribe that no person shall be recommended for a degree until he has paid all dues, including the fee for graduation.

Fees for Summer Session.—(*a*) In the Department of Literature, Science, and the Arts: a uniform fee of fifteen dollars for tuition for the session is required of all students. (*b*) In the Department of Engineering: a fee of ten dollars is required of all students who take the summer field work in surveying. (*c*) In the Department of Medicine and Surgery and in the Department of Law: the fees for tuition vary with the amount and character of the work taken. Further information is given on subsequent pages in the chapter relating to the Summer Session.

Other Expenses.—Students obtain board and lodging in private families for from three and a half to six dollars a week. Clubs are also formed in which the cost of board is from two dollars and a half to three dollars a week. Room rent varies from seventy-five cents to two dollars a week for each student. The annual expenses of students, including clothing and incidentals, are, on the average, about three hundred and seventy dollars. The University does not undertake to furnish manual labor to students; yet a few find opportunities in the city for remunerative labor.

There are no dormitories and no commons connected with the University. Students on arriving in Ann Arbor can obtain information in regard to rooms and board by calling at the office of the Secretary of the University.

Department of Literature, Science, and the Arts

The Department of Literature, Science, and the Arts owes its name to a provision in the legislative act under which the University was organized in the year 1837. Its aim is to cover the broad field of general university study of the ancient and the modern languages and literatures, of history, philosophy, mathematics, science, and the liberal arts, as distinguished from the more special work of the professional schools in engineering, medicine, law, pharmacy, and dentistry; and it offers a large number of courses of instruction, from which the student is allowed to choose such as he is qualified to pursue.

The Graduate School established in connection with this department is under the direction of an Administrative Council, appointed from the Faculty of the department.

A description of the Summer Session is given in a subsequent chapter.

The academic year extends from the Tuesday preceding the last Wednesday in September to the Thursday preceding the last Wednesday in June (September 25, 1906, to June 20, 1907).

REQUIREMENTS FOR ADMISSION

ADMISSION OF CANDIDATES FOR A DEGREE

[For admission to advanced standing, see page 59.]

[For admission of students not candidates for a degree, see page 60.]

[For admission of graduate students, see the chapter on the Graduate School, page 139.]

Applicants for admission as undergraduates must be at least sixteen years of age, and must have completed the requirements for admission, as here described. These requirements are stated in units, a unit meaning a subject of study pursued through a school year, with not less than four recitation periods each week. The subjects from which choice may be made, and the number of units which will be accepted in each subject, are as follows:

English Composition and Literature, 3 or 4 units.
Mathematics (Algebra and Geometry), 3 units.
Physics, 1 unit.
Greek, 2 units.
Latin, 2, 3, or 4 units.
French, 2, 3, or 4 units.
German, 2, 3, or 4 units.
History, 1, 2, or 3 units.
Chemistry, 1 unit.
Botany, 1 unit.
Zoology, 1 unit.
Biology, 1 unit.
Physiography, 1 unit.
$\left\{\begin{array}{l}\text{Physiography, } \frac{1}{2} \text{ unit.}\\ \text{Trigonometry, } \frac{1}{2} \text{ unit.}\end{array}\right.$

Fifteen units are required for admission. These fifteen units must include three units in English Composition and Literature, three units in mathematics, one unit in Physics, and at least two units in Latin, French, or German. The other six units may be selected by the applicant from the foregoing list.

Applicants who offer Trigonometry may complete the unit by offering one-half year's work in Physiography. For the full unit in Physiography the text-book work must be supplemented by work in the laboratory and in the field.

Biology is defined as one-half year of botany and one-half year of zoology, hence it cannot be accepted from an applicant who offers at the same time either, or both, of those subjects.

SCOPE OF THE PREPARATORY WORK

The following descriptive outline indicates the amount of preparation expected in each of the subjects named:—

English Composition and Literature.—The three units in English composition and literature should cover the following subjects:—

Composition.—As preparation for this requirement, sustained and regular practice in writing is earnestly recommended. The student should prepare numerous written exercises throughout the four years of the high school course, and a sufficient number of these exercises should be corrected by the teacher and revised by the student to secure the desired accuracy. The subjects upon which the student writes should not be drawn exclusively from literature; a considerable proportion of them should be so distributed as to give proper training in the various types of discourse, namely, description, narrative, argument, and exposition.

Rhetoric.—The student should be grounded in the essentials of rhetoric, but those principles should receive emphasis which are most likely to be of service to him in his practice in writing, such as the principles of sentential structure, paragraphing, and the outlining of the essay. The correction of stock specimens of bad English is not recommended, and will form no part of the entrance requirement.

Grammar.—The applicant should be prepared to state intelligently the essential principles of grammar and to explain the syntactical structure of any sentence encountered in his reading.

Reading of Classics.—The following books are recommended by the Joint Conference on Uniform Entrance Requirements in English:

1906-1911. For reading, ten books selected from the following list:

Group I. (two to be selected): Shakespeare's *As You Like It, Henry V, Julius Caesar, The Merchant of Venice, Twelfth Night.* Group II. (one to be selected): Bacon's *Essays;* Bunyan's *The Pilgrim's Progress,* Part I; The Sir Roger de Coverley Papers in *The Spectator;* Franklin's *Autobiography.* Group III. (one to be selected): Chaucer's *Prologue;* Spenser's *Faerie Queene,* (selections); Pope's *The Rape of the Lock;* Goldsmith's *The Deserted Village;* Palgrave's *Golden Treasury* (First Series) Books II. and III., with especial attention to Dryden, Collins, Gray, Cowper, and Burns. Group IV. (two to be selected): Goldsmith's *The Vicar of Wakefield;* Scott's *Ivanhoe;* Scott's *Quentin Durward;* Hawthorne's *The House of the Seven Gables;* Thackeray's *Henry Esmond;* Mrs. Gaskell's *Cranford;* Dickens's *A Tale of Two Cities;* George Eliot's *Silas Marner;* Blackmore's *Lorna Doone.* Group V. (two to be selected): Irving's *Sketch Book;* Lamb's *Essays of Elia;* De Quincey's *Joan of Arc* and *The English Mail Coach;* Carlyle's *Heroes and Hero Worship;* Emerson's *Essays* (Selected); Ruskin's *Sesame and Lilies.* Group VI. (two to be selected); Coleridge's *The Ancient Mariner;* Scott's *The Lady of the Lake;* Byron's *Mazeppa* and *The Prisoner of Chillon;* Palgrave's *Golden Treasury* (First Series) Book IV., with especial attention to Wordsworth, Keats, and Shelley; Macaulay's *Lays of Ancient Rome;* Poe's *Poems;* Lowell's *The Vision of Sir Launfal;* Arnold's *Sohrab and Rustum;* Longfellow's *The Courtship of Miles Standish;* Tennyson's *Gareth and Lynette, Lancelot and Elaine,* and *The Passing of Arthur;* Browning's *Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Evelyn, Hope, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, The Boy and the Angel, One Word More, Hervé Riel, Pheidippides.*

For study and practice: Shakespeare's *Macbeth;* Milton's *Lycidas, Comus, L'Allegro,* and *Il Penseroso;* Burke's *Speech on Conciliation with America,* or Washington's *Farewell Address* and Webster's *First Bunker Hill Oration;* Macaulay's *Life of Johnson,* or Carlyle's *Essay on Burns.*

It is expected that the applicant will have read these books appreciatively and will have made himself familiar with the subject-matter and the form of each work. The reading should be connected, in reasonable measure, with the lives and character of the authors read and with the history of their times.

Although the books mentioned above are recommended as preparation for this part of the requirement, they are not prescribed. Books of equal merit, covering a similar range of literary types, will be accepted as equivalents.

It is recommended that in connection with the reading of classics, the memorizing of notable passages, in both prose and poetry, should form a regular exercise throughout the whole preparatory period. This is all-important for the development of a correct taste in language and literature.

History of English Literature.—The applicant who offers four units in English composition and literature should have pursued the study throughout the four years of the high school course. In addition to the foregoing requirement his preparation should include a systematic study of the outlines of English literary history. Due emphasis should be laid upon the division of the subject into periods; and the leading characteristics of each period should be studied and, as far as is practicable, illustrated by the reading of representative authors. Any of the current manuals of English literature may serve as the basis of this part of the work, which should occupy the third or fourth year of the course. The historical study should, however, be associated as closely as possible with the reading of classics.

Applicants who present themselves for examination will be asked to write two essays of not less than two hundred words each, one upon a subject drawn from the books in the foregoing list, and the other upon a subject drawn from experience or observation. The language of these essays must be grammatical and clear. The spelling, punctuation, and capitalizing must be correct. The applicant must show ability to discriminate in the use of words and to construct well-organized sentences and paragraphs. A topical outline should accompany each essay. The applicant should also be prepared to answer questions upon the fundamental principles of grammar and rhetoric. Additional questions in the history of English literature will be given to applicants for four units.

Mathematics.—The three units in mathematics required of all applicants include algebra through quadratics, and geometry, both plane and solid (including spherical). Beman and Smith's *Elements of Algebra,* and the same authors' *New Plane and Solid Geometry* are mentioned to indicate the scope and character of the work required.

Trigonometry.—The one-half unit in trigonometry should cover the work in plane trigonometry as given in Crockett's *Trigonometry,* or an equivalent in other authors.

Physics.—The required unit in physics includes an amount represented by Carhart and Chute's *High School Physics.* The instruction in the class room should be supplemented by work in the physical laboratory to the extent of at least one period a week throughout the school year.

Greek.—The two units in Greek should be made up of grammar, prose composition, and reading, as follows:

Grammar.—Goodwin's or Hadley's. The inflections must be thoroughly mastered.

Prose Composition.—Jones's *Exercises,* with special reference to the writing of Greek with the accents, and to the general principles of syntax. Woodruff's *Greek Prose Composition* is taken as an equivalent.

Reading.—Three books of Xenophon's *Anabasis* and two books of Homer.

The so-called continental sound of the vowels and diphthongs, and pronunciation according to the written accents are preferred.

Latin.—An applicant offering two units in Latin should have completed Jones's *First Latin Book* or an equivalent amount in some other introductory text-book; and should have read four books of Caesar's *Gallic War,* and one of the orations of Cicero.

N. B.—This preparation is sufficient to enable the student to enter Latin A or B in the University.

An applicant offering three units in Latin should have completed the foregoing requirements for two units. He should, in addition, have read not less than five orations of Cicero or six books of Virgil's *Aeneid,* or an equivalent. And he should, further, be prepared to meet the requirement in Latin prose composition described below.

The four units in Latin should be made up of grammar, prose composition, and reading, as follows:

Grammar.—A thorough preparation in the elements of etymology, syntax, and prosody.

Prose Composition.—Applicants will be asked to translate into Latin a passage of connected English narrative, based upon some portion of the Caesar or Cicero read. As a text-book, Jones's, Collar's, Daniell's, or Bennett's is recommended. Special care should be taken with the training in prose composition.

Reading.—Four books of Caesar's *Gallic War;* six select orations of Cicero; and six books of Virgil's *Aeneid.* For any two books of the *Aeneid,* 1,500 lines of Ovid may be substituted. The books named may serve to indicate the amount and kind of text adapted to give the ability to read passages of moderate difficulty at sight, which is what the University requires.

The Roman method of pronouncing Latin is used at the University.

French.—The applicant who offers two units in French will be expected to pronounce French intelligibly and with some fluency, to understand French when spoken in simple phrases and about familiar subjects, to read ordinary prose easily and accurately, and to write correctly in French simple sentences based on texts studied. This ability demands a firm grasp of the elements of grammar (such as the conjugation of the verb, both regular and irregular, the use of auxiliaries, the forms of the pronoun, the agreement of adjectives and participles, the main uses of the articles, and the order of words in the sentence), and such a familiarity with the structure of the sentence and common turns of expression and such command of vocabulary as may be given by the careful, well directed reading of three or four hundred pages of easy prose.

The applicant who offers three units in French should be able to read ordinary prose rapidly at sight, with clear understanding of the distinctions of tense and mode and all the common points of syntax, to reproduce in simple but connected French the substance of a narrative or dramatic text, and to follow ordinary explanations and commentaries made orally in French. In acquiring this ability accent should be laid on the rapid understanding of the French phrase, whether it be addressed to the eye or the ear. Much should be read, spoken, and dictated. At least six hundred pages of prose should be read, and at the end it should not be too easy.

The applicant who offers four units in French should be able to read at sight any French not offering very unusual difficulties of vocabulary or syntax, to translate into French a passage of simple English, and to carry on a conversation in French upon a familiar subject. He should have read, in addition to what is required for three units, at least one thousand pages of French chosen from standard authors, and he should be able to answer questions on the content and meaning of the works read as well as upon the language in which they are written.

German.*—The applicant who offers two units in German should be able to pronounce German correctly and should be thoroughly familiar with the everyday facts of the grammar. He should have read about 300-350 pages of standard modern prose and should be able to take part in a simple conversation in German on topics drawn from the works read. He should also be able to translate easy English prose into German.

The applicant who offers three units in German should, in addition to the work described above, be prepared as follows: He should have read two classics selected from the works of Lessing, Goethe, and Schiller, and about 250 pages of standard prose fiction and history. He should have a good knowledge of German syntax and should be able to write a short essay on some subject taken from the works read. He should also be able to translate ordinary English into German and to express himself in German grammatically and with ease on topics connected with his reading.

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*A fuller statement of the requirements in German may be found in the "Report of the Committee of the German Section of the Michigan Schoolmasters' Club on a Uniform High School Course in German." Copies of the report may be obtained by applying to the professor of German.

The four units in German include the foregoing requirements and additional preparation as follows: The reading of five standard dramas (exclusive of those read in the third year) selected from the works of Goethe, Schiller, Lessing, Heinrich v. Kleist, and Grillparzer; a thorough command of German grammar, and the ability to speak and write German with considerable ease and correctness. The applicant should have written several longer essays on the works read.

History.—The requirement of one, two, or three units in history may be met by selections from the following list:

Ancient history to the year 800 A. D., one unit.
Mediæval and modern history, one unit.
English history, one unit.
United States history and government, one unit.

A year's work in general history, with the use of such a book as Myers's *General History,* will still be accepted as one unit, though it is believed that better results will be obtained if a year is given to ancient history down to the fall of the Roman Empire (or, preferably, to the year 800 A. D.), and a year to mediæval and modern history.

Physiography.—The applicant who offers one-half unit in physiography is expected to have studied one of the following books for a half year: Dryer's Lessons in *Physical Geography;* Gilbert and Brigham's *Introduction to Physical Geography;* Davis's *Elementary Physical Geography;* or Tarr's *New Physical Geography.* In this connection field excursions are earnestly recommended and also the reading of such books as Geikie's *Earth Sculpture,* Shaler's *Outlines of the Earth's History* and *Aspects of the Earth,* Russell's *Lakes of North America, Glaciers of North America, Volcanoes of North America,* and *Rivers of North America,* and Muir's *Mountains of California.* The ability to read a topographic map is essential in physiographic study; teachers will find the topographic maps issued by the United States Geological Survey an important aid.

The applicant who offers one unit in physiography is expected to have completed, in addition to the foregoing requirement, one half-year of laboratory work in meteorology. Davis's *Elementary Meteorology,* Waldo's *Elementary Meteorology,* and Ward's *Practical Exercises in Elementary Meteorology* will be helpful in connection with this work.

Chemistry.—The nature and extent of the requirement in this subject are indicated by the mention of Freer's *Elementary Chemistry* as a text-book, or an equivalent amount in Remsen's *Introduction to the Study of Chemistry.* The study of the text should be accompanied by laboratory work.

Botany.—The unit required of those who offer botany for admission is expected to include as much as a competent teacher, trained in laboratory methods, can accomplish with his classes in a year. No attempt is here made to indicate the exact extent of the ground to be covered, for the teacher should have large liberty in selecting material and topics as occasion requires; but it is recommended that one-half year be given to the form, structure, and habits of flowering plants, while the other half-year may be given to the natural groups of plants, physiology, and the adaptation of form and structure to environment.

The following text-books are recommended as offering numerous and helpful suggestions: Atkinson's *Elementary Botany;* Bailey's *Botany;* Barnes's *Plant Life;* Bergen's *Foundations of Botany;* Coulter's *Plant Relations and Plant Structures;* Spalding's *Introduction to Botany;* Stevens's *Introduction to Botany.* Ganong's *Teaching Botanist* is one of the most useful books for the teacher.

Zoology.—An applicant who offers a unit in zoology will be expected to have a knowledge of at least eight of the following animal types: 1 and 2. Two protozoa: Amœba, Paramœcium, Vorticella, Stentor, Volvox; 3. A sponge: Spongilla or Grantia; 4. A hydroid: Hydra, to be compared with a medusoid form; 5. An echinoderm: starfish or sea-urchin; 6. An annelid: the earthworm or the leach; 7. A crustacean: crayfish, lobster, or crab; 8. An insect: butterfly (including immature stages), grasshopper, cricket, cockroach, or other insect; 9. A mollusk: the fresh water mussel or one of the snails; 10. A fish: minnow or perch; 11. An amphibian: frog, toad, tree-toad, salamander (Amblystoma), or mudpuppy (Necturus).

These forms must be studied by the laboratory method. Laboratory work should be directed not merely toward a study of animal structure, but as far as practicable toward the study of habits and reactions. It should furnish the basis for the class room discussion of principles; especially of evolution. Of the four periods per week that must be given to the work, two at least should be laboratory periods of two hours each, and the other two should be given to recitations or other class exercises. Careful original notes and drawings must be presented by applicants as part of the examination.

The mention of the following books may serve to indicate the character of the work required: Needham's *Elementary Lessons in Zoology;* Davenport's *Introduction to Zoology;* Jordan and Kellogg's *Animal Life;* French's *Animal Activities.*

Biology.—One half of the work above outlined in botany, together with one half of that outlined in zoology, will meet the requirements in biology.

ADMISSION ON EXAMINATION

Applicants for admission who are not entitled to enter on diploma (see page 58) must take the entrance examination. They should register with the Dean, at his office in University Hall, the day before the examination begins. The office will be open for this purpose Tuesday, September 18, 1906, and Thursday, February 7, 1907, from 9 to 11, and from 2 to 5.

The applicant may divide the examination into two parts, taking one part either a year or a semester before the date of his admission and the second part at the time of admission. But if he fail to secure the requisite number of units within the specified time he forfeits all credits for the subjects he may have passed.

The examination in the several subjects will be in writing, and will be held in Tappan Hall in accordance with the schedules given below. Applicants presenting themselves too late for the scheduled examination are required to pay an examination fee of five dollars.

SCHEDULE OF EXAMINATIONS FOR ADMISSION, SEPTEMBER, 1906

	Wednesday Sept. 19	Thursday Sept. 20	Friday Sept. 21	Saturday Sept. 22	
Botany	10 A. M.	......	......	......	Room 8
History	2 P. M.	......	......	......	Room 8
Zoology	4 P. M.	......	......	......	Room 8
Geometry	......	8 A. M.	......	......	Room 8
French	......	10 A. M.	......	......	Room 12
Latin	......	2 P. M.	2 P. M.	......	Room 8
Latin	......	......	4 P. M.	......	Room 8
German	......	2 P. M.	2 P. M.	......	Room 12
Chemistry	......	4 P. M.	......	......	Room 8
Algebra	......	......	8 A. M.	......	Room 8
Greek	......	......	2 P. M.	......	Room 8
Physics	......	......	......	8 A. M.	Room 8
English Composition and Literature	......	......	......	10 A. M.	Room 8
Physiography	......	......	......	2 P. M.	Room 8

SCHEDULE OF EXAMINATIONS FOR ADMISSION, FEBRUARY, 1907

	Friday Feb. 8	Saturday Feb. 9	
Algebra	8 A. M.	......	Room 8
Geometry	8 A. M.	......	Room 8
Physiography	11 A. M.	......	Room 8
German	2 P. M.	......	Room 8
Botany	3 P. M.	......	Room 8
Zoology	3 P. M.	......	Room 8
History	4 P. M.	......	Room 8
Physics	......	8 A. M.	Room 8
English Composition and Literature	......	10 A. M.	Room 8
Latin	......	2 P. M.	Room 8
Greek	......	3 P. M.	Room 8
French	......	3 P. M.	Room 12
Chemistry	......	4 P. M.	Room 8

CONDITIONAL ADMISSION

An applicant who fails in some part of the examination may, at the discretion of the Faculty, be admitted conditionally; but any condition thus incurred must be removed at one of the next two regular examinations for admission. No student who has an admission condition outstanding at the beginning of his second year of residence will be allowed to enter his classes until such condition is removed.

ADMISSION ON DIPLOMA

The privilege of sending pupils for admission on diploma is limited to schools that have been approved by the Faculty. On request of the proper authorities, the Faculty sends an officer of the University to visit a school and report upon its condition. If satisfied from the report of this officer that the school is taught by competent instructors, and is furnishing a good preparation to meet the requirements for admission, described on pages 49 to 56, then the Faculty places the school on the approved list for a period not exceeding three years (inclusive of the year of visitation); reserving, however, the right to require another inspection, if, within the period specified in each case, important changes affecting the course of study in the school, or the efficiency of the instruction, seem to make an examination necessary.

The superintendent of each approved school is expected to send to the President of the University, annually, at a date not later in the year than March first, a catalogue of the school; or, if no catalogue is published, he is expected to send a statement giving the names of the teachers, the number of pupils, and a description of the courses of study.

Graduates of schools that have been placed by the Faculty on its approved list are admitted without examination on presenting a recommendation, signed by the principal of the school, certifying that they have satisfactorily done all the work required for admission. The recommendation must be made on a blank form furnished by the University.

The principals of approved schools are urged to send to the Dean, at as early a date as possible, the recommendation of each graduate intending to enter this department of the

University at the beginning of the ensuing college year. If, on inspection, the recommendation is found satisfactory, the Dean will forward to the applicant a certificate, entitling him to admission without examination. Such certificate, or an original recommendation, must be presented to the Dean at his office in University Hall as early as the day preceding the opening of the academic year. The office of the Dean will be open for the registration of applicants for admission on diploma from 9 to 12 and from 2 to 5, Saturday, September 22, and Monday, September 24, 1906.

ADMISSION TO ADVANCED STANDING

1. A student who brings a certificate of standing from an approved college or university, showing that he has satisfactorily completed at least one year of the curriculum of the institution from which he comes, may be admitted without examination to equal standing in this department of the University. A graduate of one of the stronger courses of an approved normal school, who brings an official certificate explicitly describing the extent and character of his work, may be given, without examination, such advanced standing as is justified by the course he has completed.

The certificates above referred to must be presented to the Dean of the department as early as the fifteenth of October (or, if the student enter at the beginning of the second semester, as early as the first of March).

2. All other applicants for advanced standing must present to the Registrar as early as the fifteenth of October (or, if they enter at the beginning of the second semester, as early as the first of March) a statement showing the amount of work done in the subjects in which credit is asked. The Registrar will thereupon furnish a blank form for presentation to the professors in charge of the several subjects designated in the blank, who will by examination determine the amount of credit to which the applicant is entitled.

Credits must be secured and returned to the Registrar as early as the first of November (or, if the student enter at the beginning of the second semester, as early as the fifteenth of March). An account once closed cannot be reopened without special permission of the Dean.

ADMISSION OF STUDENTS NOT CANDIDATES FOR A DEGREE

Persons over twenty-one years of age who wish to pursue studies in this department, without becoming candidates for a degree, may be admitted as special students, provided they pass an examination in English, and show that they are qualified to pursue profitably the studies they may desire to take up. In the examination in English applicants will be asked to write brief essays on subjects that will be assigned, and to answer questions on the rudiments of English grammar. The examination will be held in Room 8, Tappan Hall, at 10 A. M. Saturday, September 22, 1906. The Dean's office will be open for the registration of applicants, Friday, September 21, from 9 to 11 and from 2 to 5.

Should a special student subsequently become a candidate for graduation, he must pass all the examinations for admission required of such a candidate, at least one year before the time when he proposes to graduate.

Special students who wish credit for studies pursued before admission are referred to the rules relating to advanced standing given above.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Arts is conferred upon students who have been in residence for at least one academic year, and have secured one hundred and twenty hours of credit. This credit must include Courses 1 and 2 in Rhetoric. With this restriction the student may select from the work offered in the department such courses as he is qualified to pursue, subject only to the following rules:

RULES GOVERNING ELECTION OF STUDIES

1. *First-Year Elections.*—Courses 1 and 2 in Rhetoric must be taken the first year of residence, unless for exceptional reasons a postponement is allowed by the Committee on Elections. In addition to the work in Rhetoric, first-year students are expected to elect, each semester, three of the following courses, making a total of fifteen hours a week:

Greek, 1, 2 (or A, B, C).
Latin, 1, 2.
French, 1, 2 (or 3, 4).
German, 1, 2 (or 3, 4).
History, 1, 2.
Mathematics, 1, 2.
Physics, 1, 2.
Biology, 1, 2.
Chemistry, 1 and *1a*, 2 and *2a*.

If a student has credit either toward admission or toward graduation, for Courses 1 and 2, in either French or German, he may elect Courses 3 and 4. If his credit includes second-year French or second-year German, he may elect the work of the third year.

In no case may courses not on this list be elected by first-year students without the permission of the Committee on Elections. This permission must be obtained before the election blank is handed in. The committee may be consulted between 4 and 6 daily, from Tuesday to Saturday of the first week of the semester (September 26-30, 1906), in Room B, University Hall.

2. *Number of Hours Allowed.*—In accordance with the provisions of the foregoing rule, first-year students are required to elect fifteen hours a week. For all except first-year students the maximum number of hours a week that may be elected without special permission is sixteen, the minimum twelve.

On special request students of exceptional proficiency may be granted additional hours, but in all cases such requests must be made in writing on a blank form provided by the Registrar, and must be deposited in the Registrar's box on or before the first Saturday of the semester in which the additional work is desired.

All requests for permission to take less than the minimum number of hours must be made in writing, stating the proposed election and the reasons therefor, and must be presented to the Dean on or before the first Saturday of the semester for which the election is made.

When students are allowed to make up preparatory studies in the Ann Arbor High School a corresponding reduction is made from the maximum number of hours allowed them in the University.

3. *Manner of Electing.*—Election blanks, duly filled out and enumerating all the courses the student intends to take, must be deposited in the Registrar's box on or before 6 P. M. of the first Saturday of each semester. No credit is given for courses not properly elected. No student is allowed to elect merely a part of a course.

Special students are required to submit their elections to the Committee on Elections for revision and approval, before depositing the blank in the Registrar's box. No such blank is regarded as valid unless so approved.

4. *Change of Election.*—After the first Saturday of each semester no study can be taken up or dropped without special permission of the Administrative Board. All requests for permission to take up or to drop studies must be made in writing on specially provided blank forms and in accordance with the rules printed thereon.

RULES RELATING TO EXAMINATIONS AND CONDITIONS

1. Students are required to take the examinations in all courses elected except such as they may have dropped with consent of the Administrative Board.

2. No student absent from a regular examination without an excuse from the Dean is allowed to take such omitted examination before the next regular examination in that course.

3. Students of other departments who absent themselves from courses elected in this department forfeit the privilege of electing courses in this department.

4. Students are in no case examined before the time set for the examination of the class in which the work has been done.

5. Any student reported as passed "conditionally" in any course, must remove the condition within one year from the date of the examination in which it was incurred; otherwise, the course passed conditionally is regarded and treated as "not passed."

6. If a student is reported "not passed" in any course, he can receive no credit for that course unless it has been again elected and pursued as though it had not been elected before.

7. Any student who desires to remove a condition incurred at a semester examination, or who desires to take a class examination from which he was absent at the regular time, must obtain from the Registrar a blank form for presentation to the instructor in charge of the examination. The blank, when filed, must be deposited by the student with the Registrar within one week from the date entered upon it by the examiner.

COURSES OF INSTRUCTION

The Courses of Instruction are subject to change from time to time. At the opening of each academic year, a special Announcement is issued, giving full information concerning the courses offered for the year, and the days, hours, and places of lecture, recitation, and laboratory work. From the courses offered in the various branches of learning, the student is allowed to make his choice, under regulations prescribed by the Faculty (see page 60).

The courses announced for the year 1905-1906, together with a few that may be expected in 1906-1907, are described below. The amount of credit toward graduation assigned to each course is indicated by the expressions ***one hour, two hours,*** etc.

For convenience of reference, a few courses are included that are not ordinarily open to undergraduates, and for some of these no hours of credit are given.

GREEK*

Courses A, B, and C, are designed for those who have had no opportunity to take Greek before admission, or have not been able to complete the entrance requirements in Greek. A credit of four hours will be given for each one of these courses satisfactorily completed. Students intending to enter upon the study of Greek at any time in their course will find it to their advantage to do so in their first year. Courses 1 and 2 must precede all the other regular University courses in Greek.

Courses *6a*, *6b*, and 19, in addition to Courses 1, 2, 4, 5, 16, and at least two hours more chosen from other courses, are required for the Teacher's Diploma in Greek, or for a recommendation to teach Greek.

FIRST SEMESTER

A. Elementary Greek. This course, with its continuation, Course B in the second semester, enables the student to take up Course 1 (Lysias) the following year. Two sections. *Four hours.* Dr. NEWCOMER.

C. Elementary Greek, continued. Xenophon's *Anabasis* and Greek prose writings. This course is designed for those who have completed Course 1 in the Summer School, or one year of beginning Greek in a preparatory school. Those who satisfactorily complete this course will be admitted to Course 2 (Homer) in the second semester. *Four hours.* Dr. NEWCOMER.

1. Selected Orations of Lysias; Xenophon's *Symposium.* Two sections. *Four hours.* Professor PATTENGILL and Dr. NEWCOMER.

4. Demosthenes. Studies in the Attic Orators. *Four hours.* Professor PATTENGILL.

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*SCHOOL OF CLASSICAL STUDIES AT ATHENS.—This University, through the generosity of some of its friends, is a contributor to the support of the American School of Classical Studies at Athens. The school affords facilities for archæological and classical investigation and study in Greece, and graduates of the Department of Literature, Science, and the Arts of this University are entitled to all its advantages without expense for tuition. Professor M. L. D'Ooge was director of the School in 1886-7.

6*a*. Teachers' Course. Lectures on Greek grammar with special reference to the origin of inflectional forms. *Two hours.* Professor D'OOGE.

7*a*. Seminary in Tragedy. Studies in Sophocles, with special reference to textual criticism, the dramatic art of the poet, and the antiquities of the Greek stage. *Three hours.* Professor D'OOGE.

[7*b*. Seminary in Tragedy. Studies in Aeschylus. The Oresteian Trilogy is read, with special reference to the dramatic art of the poet. *Three hours.* Professor D'OOGE.

Omitted in 1905-1906; to be given in 1906-1907.]

8. History of Greek Art from the Beginning to the Roman Period. Gardner's *Handbook of Greek Sculpture* and Tarbell's *History of Greek Art* are made the basis of a more general study. *Three hours.* Professor D'OOGE.

Course 8 is open to all students who have completed the first year, irrespective of the study of Greek.

10. Introductory Course in Plato. The *Apology* and the *Crito,* and selections from the *Phaedo*. *Two hours.* Professor D'OOGE.

11. Herodotus. Books VII and VIII, and a study of the Persian War. *Three hours.* Professor PATTENGILL.

[12. Thucydides and a study of the Peloponnesian War. *Three hours.* Professor PATTENGILL.

Omitted in 1905-1906; to be given in 1906-1907.]

[18. Plato and Aristotle. Selections from the *Gorgias* and the *Nicomachaean Ethics*. *Two hours.* Professor D'OOGE.

Omitted in 1905-1906; to be given in 1906-1907.]

24. Greek Epigraphy. A study of the local alphabets and exercises in reading inscriptions written in them. *Two hours.* Assistant Professor SANDERS.

30. Modern Greek. Practical introduction and practice in reading specimens of modern Greek literature. *Two hours.* Professor D'OOGE.

SECOND SEMESTER

B. Elementary Greek. Continuation of Course A. Xenophon's *Anabasis* and Greek prose writing. *Four hours.* Dr. NEWCOMER.

2. Homer. *Odyssey*. Two sections. *Four hours.* Professor PATTENGILL and Dr. NEWCOMER.

5. Greek Tragedy. Euripides: *Iphigenia in Tauris*. *Three hours.* Professor PATTENGILL.

6*b*. Greek Prose Composition. This course is intended for those who are expecting to teach Greek. It affords constant practice in writing connective narrative in Greek, and includes an intensive study of the syntax and style of Xenophon. *Two hours.* Dr. NEWCOMER.

9. The Bucolic Poets. The *Idyls* of Theocritus, Bion, and Moschus. *Three hours.* Professor PATTENGILL.

16. The History of Greek Literature. Lectures and recitations. *Two hours.* Professor D'OOGE.

    Course 16 is designed to give a general survey of Greek Literature from Homer to the Roman Period, and may be elected by all students, irrespective of the study of Greek.

[17. Aristophanes. The *Clouds,* the *Birds,* and the *Frogs. Three hours.* Professor PATTENGILL.

    Omitted in 1905-1906; to be given in 1906-1907.]

[19. Introduction to the critical study of Homer. Lectures on the history of the Homeric text, and a study of the Homeric language and verse. A critical reading and interpretation of portions of the *Iliad. Three hours.* Professor D'OOGE.

    Course 19 is especially intended for those who are preparing themselves to teach Greek.

    Omitted in 1905-1906; to be given in 1906-1907.]

21. Pindar. The Olympian and Pythian Odes. Selections from Bacchylides. *Three hours.* Professor D'OOGE.

[23. The *Athenian Constitution* of Aristotle, with special reference to the judicial and political antiquities of Athens. *Two hours.* Professor D'OOGE.

    Omitted in 1905-1906; to be given in 1906-1907.]

25. Greek Palæography. *Two hours.* Assistant Professor SANDERS.

26. Lucian. The *Dream, Charon, Timon, Dialogues of the Gods, Dialogues of the Dead,* and other minor pieces. Discussion of the life and times of Lucian. *Two hours.* Professor D'OOGE.

27. Seminary in Plato's *Republic. Two hours.* Professor D'OOGE.

29. Ancient Athenian Life. Illustrated by means of lantern slides. *One hour.* Professor D'OOGE.

[31. Pausanias and the topography and monuments of ancient Athens. *Two hours.* Professor D'OOGE.

    Omitted in 1905-1906; to be given in 1906-1907.]

LATIN

Courses A and B are designed for students entering with two units in Latin, and should be elected in the first year. A credit of four hours is given for each course.

Courses 1, or *1a,* and 2 must precede all the rest, and should be taken in the first year, if the student plans to pursue any of the more advanced courses.

In order to increase the range of work offered to advanced students, several of the courses in Latin are given in alternate years, new courses being introduced as opportunity is thus afforded.

The requirement for the Teacher's Diploma in Latin is *twenty-five hours* of work in the department, selected after consultation with the professor in charge.

Courses 1, 2, 3, 4, 5, 6, 7, and 23 are intended primarily for undergraduates. Courses 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 20, 21, and 22 are for graduates and undergraduates. Courses 18*b*, 24, 25, 26, 27, 28, 29, and 30 are exclusively for graduates.

FIRST SEMESTER

A. Cicero. Selected Orations. *Four hours.* Professor DRAKE.

1. Cicero, *De Senectute, De Amicitia;* Selections from Catullus; Latin Writing. Three sections. *Four hours.* Professor W. DENNISON, Assistant Professor MEADER, and Dr. NEWCOMER.

1*a*. Cicero, *De Senectute, De Amicitia;* Selections from Catullus. *Four hours.* Assistant Professor SANDERS.

1*b*. Latin Writing. Three sections. *One hour.* Professor W. DENNISON, Assistant Professor MEADER, and Dr. NEWCOMER.

3. Horace. Selections from the *Odes, Satires,* and *Epistles.* Studies in the Roman Antiquities. Two sections. *Four hours.* Professor DRAKE and Assistant Professor SANDERS.

3*a*. Horace. Selections from the *Odes, Satires,* and *Epistles. Three hours.* Professor DRAKE and Assistant Professor SANDERS.

[5*a*. The Private Life of the Romans. Lectures on Roman life, with a study of the social conditions of antiquity; illustrated by stereopticon slides. Professor W. DENNISON.

Omitted in 1905-1906.]

[5*b*. Martial; Petronius; *Trimalchio's Banquet.* With special reference to the private and the social life of the Romans. *Two hours.* Professor W. DENNISON.

Omitted in 1905-1906.]

5*c*. Comparative Linguistics. A general introduction to comparative Indo-European and classical philology. *One hour.* Assistant Professor MEADER.

7. The *Germania* and *Agricola* of Tacitus. Interpretations and lectures. *Two hours.* Professor DRAKE.

7*a*. History of Roman Law. Lectures. A sketch of the development of Roman private law and of the relations of private to public law up to the death of Justinian; some account of Roman law in the Middle Ages; and a discussion of the relations of Roman law to modern systems of law. *One hour.* Professor DRAKE.

9. Rapid Reading of Easy Latin. The aim of this course is to train the student in the reading of Latin, without the use of the dictionary. *Two hours.* Assistant Professor MEADER.

[9*a*. The Pseudo-Cæsarian *Bellum Africanum* and *Bellum Hispaniense.* Interpretation of the text, and critical study of their syntactical and stylistic peculiarities, accompanied by continual comparisons with the usage of Cæsar. Assistant Professor MEADER.

Omitted in 1905-1906.]

11. Latin Writing. Introductory to Course 12. The principal aim is to secure correctness of expression and a feeling for idiom. Three sections. *Two hours.* Professor W. DENNISON, and Assistant Professors SANDERS and MEADER.

[13. Juvenal. Interpretations and lectures. *Two hours.* Professor KELSEY.

Omitted in 1905-1906.]

13*a*. Lucretius. Interpretations and lectures. *Two hours.* Professor KELSEY.

15. Introduction to Latin Palæography. Lectures on the various styles of writing found in Latin manuscript, with exercises in reading from facsimiles. *Two hours.* Assistant Professor SANDERS.

17. Latin Grammar. Lectures on the phonology and morphology of the language. *Two hours.* Assistant Professor SANDERS.

19. Roman Political Institutions. Lectures. This course deals with the Roman constitution up to and including the Augustan age. Special attention is given to the reasons for the failure of the constitution of the Republic, and to the establishment of the Principate of Augustus. Points of resemblance to the American constitution are noted. *One hour.* Professor DRAKE.

[19*a*. Proseminary in Roman Political Institutions. Lectures, topical studies, and reports on selected themes in Roman constitutional law and history. Professor DRAKE.

Omitted in 1905-1906.]

21. Teachers' Course. Interpretation of Cæsar's *Gallic War,* with studies in the syntax and military antiquities. *Two hours.* Professors KELSEY and W. DENNISON.

21*a*. Teachers' Course. Lectures on the *Gallic War.* *One hour.* Professor KELSEY.

21*b*. Studies in Cæsar. *Two hours.* Professors KELSEY and W. DENNISON.

[23. The Antiquities of Pompeii. Lectures, illustrated by the stereopticon. A summary of the results of excavation and investigation at Pompeii is presented, with special reference to the contribution made by the discoveries to our knowledge of ancient art and Roman private life. *One hour.* Professor KELSEY.

Omitted in 1905-1906.]

25. Reports on the Progress of Research. Analysis and criticism of important articles in the domain of the Latin and Greek languages and literatures, Latin and Greek grammar and lexicography, Greek and Roman history, archæology, and antiquities, by members of the classical faculty and members of the Latin and Greek seminaries. *One hour.*

27. Seminary. Roman Philosophical Writers, with special studies in Lucretius. *Two hours.* Professor KELSEY.

Course 27 is open only to graduate students.

29. Study in Roman Coins. *Hours of work in Coin Room assigned by special arrangement.* Professor KELSEY.

31. Lectures on the Sources of Roman Historians. *One hour.* Assistant Professor SANDERS.

SECOND SEMESTER

B. Virgil, *Aeneid,* Books I-VI. *Four hours.* Assistant Professor SANDERS.

2. Livy, Book 1. Plautus. Terence. Four sections. *Four hours.* Professor W. DENNISON, Assistant Professors SANDERS and MEADER, and Dr. NEWCOMER.

4. Roman Literature. Selections from representative authors; lectures. Two sections. *Four hours.* Professor DRAKE.

4*a*. General Course in Roman Literature. Lectures and topical studies. This course is designed for students interested in the general subject of literature, who do not wish to make an intensive study of Latin. No knowledge of Latin is required. The Roman literature is treated in its broad relation to the Greek literature and to modern literature. Two sections. *Two hours.* Professor DRAKE.

4*b*. Selections from representative Latin authors. Two sections. *One hour.* Professor DRAKE.

[6. Christian Latin. Interpretation of selections from the early Latin writers of the Christian church, with illustrative lectures upon Christian archæology and antiquities. *Two hours.* Assistant Professor MEADER.

Omitted in 1905-1906.]

6*a*. Roman Comedy. Selected plays of Plautus and Terence. *Two Hours.* Assistant Professor MEADER.

6*c*. Comparative Linguistics. Continuation of Course 5*c*. *One hour.* Assistant Professor MEADER.

8. Roman Law. Lectures and recitations. An outline of the fundamental principles of Roman law. Special emphasis is placed on points of Roman law which illustrate principles of English law. Sohm's *Institutes of Roman Law.* *Two hours.* Professor DRAKE.

8*a*. Modern Roman Law. Lectures and recitations. A sketch of the history of Roman law from the time of Justinian to the present, with especial reference to the influence of Roman law as embodied in modern codes. *Two hours.* Professor DRAKE.

8*b*. Advanced Course in Roman Law. A study of selected titles of the Digest of Justinian. *Two hours.* Professor DRAKE.

10. Roman Art. Elements of Roman archæology: sculpture and painting in the Roman period. Illustrated lectures. *Three hours.* Professor KELSEY.

[10*a*. The Topography and Monuments of Ancient Rome. Lectures, in part illustrated. *Three hours.* Professor KELSEY.
Omitted in 1905-1906.]

12. Latin Writing. Advanced course, with lectures on Latin style. Three sections. *Two hours.* Professor W. DENNISON, Assistant Professors SANDERS and MEADER.

[14. Catullus, Tibullus, and Propertius. Interpretations, with lectures on the Roman elegy. *Two hours.* Assistant Professor SANDERS.
Omitted in 1905-1906.]

14*a*. Virgil. *Georgics.* Interpretations, and lectures on the Roman writers on agriculture. *Two hours.* Assistant Professor SANDERS.

14*b*. Lectures on Classical Mythology. *One hour.* Assistant Professor SANDERS.

[16. Latin Inscriptions. Reading of inscriptions of different periods from the De Criscio collection and from reproductions. Interpretation of selected inscriptions. *Two hours.* Professor W. DENNISON.
Omitted in 1905-1906.]

[16*a*. The *Letters* of Cicero. Interpretation of selected letters, with a study of Roman manners and political conditions at the end of the Republic. Professor W. DENNISON.
Omitted in 1905-1906.]

16*b*. The Letters of Pliny. Interpretation of selected letters, with a study of Roman literary and social conditions at the end of the first century, A. D. *Two hours.* Professor W. DENNISON.

18. Latin Grammar. Lectures on syntax and style. The forms and the meanings of the more important syntactical types are treated, and special attention is given to the discussion of the factors (subjective and objective) that condition their development. The continuity of the Græco-Roman tradition in matters of style is especially dwelt upon. *Two hours.* Assistant Professor MEADER.

18*b*. The Italic Dialects. Lectures and recitations on the phonology, morphology, and syntax of Oscan and Umbrian. Interpretation of inscriptions. *Two hours.* Assistant Professor MEADER.

20. Roman Administrative Law. (Provincial Administration). Lectures. A short account of the geographical extension of Rome through her conquests, of her system of provincial administration, of the effect of provincial development upon the life of the state, of the reorganization of the administration by Augustus and by Diocletian; and a sketch of the later history of the provinces. *One hour.* Professor DRAKE.

22. Teachers' Course. Virgil. *Two hours.* Professors KELSEY and W. DENNISON.

22*a*. Teachers' Course. Lectures on Virgil. *One hour.* Professor KELSEY.

22*b*. Studies in Virgil. *Two hours.* Professors KELSEY and W. DENNISON.

24. Reviews in Roman Literature, Latin Grammar, and Roman Political Institutions. Professor DRAKE and Assistant Professor MEADER.

Course 24 is designed especially for graduate students.

26. Reports on the Progress of Research. Continuation of Course 25. *One hour*.

28. Seminary. Roman Satire, with special studies in Juvenal. Continuation of Course 27. *Two hours.* Professor KELSEY.

Course 28 is open only to graduate students.

30. Study of Roman Coins. *Hours of work in Coin Room assigned by special arrangement.* Professor KELSEY.

SANSKRIT AND COMPARATIVE LINGUISTICS

The courses in Sanskrit offered below are designed especially for students of the languages, ancient and modern, and are correlated with the courses in Comparative Linguistics, but individual aid and direction will be given to any who wish to devote themselves to other aspects of the study.

Before beginning the study of Sanskrit, the student should have pursued courses in two of the three subjects, Greek, Latin, and German, for at least four semesters. The courses in Comparative Linguistics are open to students of modern as well as of ancient languages.

FIRST SEMESTER

1. Beginners' Course. Grammar, and exercises in translation and composition. Text-books: Whitney's or Thumb's *Grammar* and Lanman's *Sanskrit Reader*. *Two hours.* Assistant Professor MEADER.

[3. Advanced Reading: Kalidasa's *Cakuntala*. Elements of Prakrit. *One hour.* Assistant Professor MEADER.

Omitted in 1905-1906.]

3*a*. Rapid Reading of Easy Sanskrit. *Two hours.* Assistant Professor MEADER.

5*c*. Comparative Philology. A general introduction to comparative Indo-European and classical philology. Study of the relationships, classification, and general characteristics of the Indo-European languages, and discussion of the main questions of comparative phonology, morphology, and syntax. *A knowledge of Sanskrit is not required.* Lectures and recitations. *One hour.* Assistant Professor MEADER.

SECOND SEMESTER

2. Interpretation of selections contained in Lanman's *Sanskrit Reader,* with elementary studies in the comparative morphology of the more important cognate languages. *Two hours.* Assistant Professor MEADER.
4. Advanced Reading. *One hour.* Assistant Professor MEADER.
6*c*. Comparative Philology. Continuation of Course 5. *One hour.* Assistant Professor MEADER.

HEBREW

FIRST SEMESTER

1. *Genesis,* Baer and Delitzsch's Text. Gesenius's *Hebrew Lexicon.* Craig's *Hebrew Word Manual.* Gesenius's *Hebrew Grammar,* edited by Kautzsch, translated by Collins, twenty-sixth edition. *Three hours.* Professor CRAIG.
3. The Minor Prophets, *Amos, Hosea,* and *Isaiah,* Chaps. I-XXXV. *Two hours.* Professor CRAIG.
4. Prophetic Literature. *Isaiah,* Chaps. XL-LXVI, and study of the modern literary criticism of the *Book of Isaiah.* Text-books: *Hebrew Bible,* Driver's *Hebrew Moods and Tenses.* Professor CRAIG.

SECOND SEMESTER

2. *Deuteronomy, Joshua, I Samuel, Ruth, Jonah.* Theile's *Biblia Hebraica.* Gesenius's *Hebrew Lexicon.* Müller, *Outlines of Hebrew Syntax. Three hours.* Professor CRAIG.
5. The *Book of Job,* including study of the literary structure and critique of the dominant ideas. Text-books: Baer and Delitzsch's Text and Haupt's Polychrome edition (text by Siegfried). *Two hours.* Professor CRAIG.

ASSYRIAN

FIRST SEMESTER

1. Introduction to Easy Historical Inscriptions from the Ninth Century B. C., with study of the grammar. Text-book: Delitzsch's *Assyrische Lesestücke,* vierte Auflage. *Three hours.* Professor CRAIG.

3. The Babylonian Stories of Creation; the Deluge and the War of Marduk against Tiâmat; lectures on the Cosmology of the Babylonians; Inscription of Tiglathpileser I, cir. 1120 B. C. *Two hours.* Professor CRAIG.

SECOND SEMESTER

2. Historical Inscriptions. Selections from the cuneiform inscriptions of Western Asia (R. I-V). *Three hours.* Professor CRAIG.
4. Religious Literature. Texts: King's *The Prayers of the Lifting up of the Hand,* and Craig's *Religious Texts. Two hours.* Professor CRAIG.

ARABIC

FIRST SEMESTER

1. Introductory Course. Grammar and reading. Text-books: Socin's *Arabic Grammar* (English ed.) and Brünnow's *Chrestomathy. Two hours.* Professor CRAIG.
2. Selected Suras from the *Quran,* with introductory lectures on the life of Muhammed and Muhammedanism. *Two hours.* Professor CRAIG.

ARAMAIC, SYRIAC, AND ETHIOPIC

Courses in Aramaic, Syriac, and Ethiopic are given to students of advanced standing. The Aramaic parts of the *Old Testament* (*Dan.* 2:4-7:28; *Ezra* 4:8-6:18; and 7:12-26) are read in conjunction with the study of Aramaic grammar. Hebrew, Assyrian, Arabic, and Aramaic should, however, ordinarily be pursued before taking up Syriac and Ethiopic.

SEMITIC HISTORY AND LITERATURE

FIRST SEMESTER

1. Lectures. The beginning of history and civilization, and the history of Babylonia and Assyria, from the earliest historical period, cir. 4500 B. C., down to the Fall of Ninevah and Babylon. *Two hours.* Professor CRAIG.

   The lectures are illustrated by 200 lantern views, numerous photographs, photolithographs, and original tablets and casts.
2. The History of Israel and Judah from The Conquest to the Fall of the Northern Kingdom under Sargon, 722 B. C. *Two hours.* Professor CRAIG.
4. The Religion of the Semites. A general study of Semitic religion, with more especial attention to the religion of the Hebrews and of the Babylonians. Especially designed for students of theology and philosophy. *Two hours.* Professor CRAIG.

5. Study of the Hexateuch—*Genesis* to *Joshua* included. The literary origin of these books and the conclusion of modern *Old Testament* scholarship respecting them. The history of the literary study of the Pentateuch, showing the various steps in the long process of investigation which has resulted in the conclusions now accepted by scholars irrespective of their theological attitude. *Two hours.* Professor CRAIG.

8. The Study of the Minor Prophets, Amos and Hosea, and of the prophecies of Isaiah (*Isa.,* Chapters 1-35) and of Isaiah's younger contemporary, Micah. *Two hours.* Professor CRAIG.

SECOND SEMESTER

3. The History of Judah from the Fall of the Northern Kingdom to the Babylonian Exile, 586 B. C., and of the Jewish State from (1) the Exile to the establishment of the Congregation under Ezra, 444 B. C., (2) from Ezra until Alexander of Macedon, 336 B. C., (3) from Alexander until Antiochus IV, 175 B. C., (4) from Antiochus IV to the destruction of the state with the Fall of Jerusalem, 70 A. D. *Two hours.* Professor CRAIG.

6. The Study of *Deutero-Isaiah* (*Isa.,* Chapters 40-66), *Jeremiah, Jonah, Nahum,* and *Daniel. Two hours.* Professor CRAIG.

7. The Study of the *Wisdom Literature* of the *Old Testament,* with special discussion of the *Book of Job;* its kinship to and contrasts with the great skeptical dramas of other literatures: The *Prometheus* of Aeschylus, Goethe's *Faust,* and Shakespeare's *Hamlet. Two hours.* Professor CRAIG.

HELLENISTIC GREEK

FIRST SEMESTER

1. *New Testament.* The *Acts of the Apostles,* including grammatical study of the peculiarities of Hellenistic Greek, and historical introduction to the Apostolic period. Text-books: Westcott and Hort's *Greek New Testament,* revised edition, with introduction by Ph. Schaff; Winer's *New Testament Grammar;* Blass's *New Testament Grammar;* Thayer's *Greek-English Lexicon. Two hours.* Professor CRAIG.

2. The Gospels according to Mark, Luke, and John, including grammatical study in Hellenistic Greek. Text-books as in Course 1. *Two hours.* Dr. FRENCH.

SECOND SEMESTER

3. *I Corinthians, II Corinthians.* Text-books the same as in first semester. *Two hours.* Professor CRAIG.

4. *I* and *II Thessalonians, Ephesians, Colossians. Two hours.* Dr. FRENCH.

FRENCH

Courses 1, 2, 3, and 4 must precede all others. Courses 5 to 14, inclusive, are open to students who have completed Courses 1 to 4, or an equivalent. Courses 15-31 are advanced courses for undergraduates and graduates. The requirement for the Teacher's Diploma in French is twenty-five hours of work in the department, selected after consultation with the professor in charge.

FIRST SEMESTER

1. Elementary Course. Grammar and easy reading, with practice in speaking. Nine sections. *Four hours.* Professors CANFIELD and LEVI, Assistant Professors DE PONT, EFFINGER, and THIEME, Dr. HAMILTON, and Mr. MCLAUGHLIN.

1*a*. Elementary Course. Grammar and reading, designed especially for students wishing to acquire as rapidly as possible the ability to read French. Two sections. *Four hours.* Dr. HAMILTON and Mr. MCLAUGHLIN.

3. Modern Prose and Plays, with practice in speaking and writing French. Continuation of Course 2. Five sections. *Four hours.* Assistant Professors DE PONT, EFFINGER, and THIEME, Dr. HAMILTON, and Dr. WAGNER.

3*a*. Representative French Authors. This course is specially intended for students who have had Courses 1 and 2, or 1*a* and 2*a*, or an equivalent, and who do not intend to take more than two years of French. *Four hours.* Assistant Professor THIEME.

3*b*. French Conversation. Stress is laid on the acquirement of a good pronunciation and a correct accent. *One hour.* Assistant Professor DE PONT.

5. Advanced Prose Composition. Three sections. *Three hours.* Assistant Professors DE PONT and THIEME, and Mr. MCLAUGHLIN.

7. The Drama of the Seventeenth Century; Corneille, Molière, Racine. *Three hours.* Assistant Professor EFFINGER.

[9. French Society and Culture in the Sixteenth, Seventeenth, and Eighteenth Centuries. A survey of the principal factors that contributed to the formation, development, and decay of the classical ideal in French literature. *Two hours.* Assistant Professor THIEME.

Omitted in 1905-1906.]

11. Voltaire. Reading of selected works, lectures, and reports. *Two hours.* Professor CANFIELD.

13. Hugo and Balzac. Part I. The novels of Victor Hugo, his art and literary methods. Lectures, readings, reports, and discussions. *Two hours.* Professor LEVI.

15. The Dramatic Literature of the Nineteenth Century. Part I. The Drama of the Revolution; the Melodramatic Period; the Romantic Movement. *Three hours.* Assistant Professor EFFINGER.

17. Montesquieu and Diderot. Studies in the intellectual movements of the Eighteenth Century. *Two hours.* Assistant Professor DE PONT.

19. Poetry of the Nineteenth Century, especially with reference to the growth and the transformation of the Romantic Movement. Lamartine, Hugo, Musset, Vigny, Gautier, Parnassiens and Symbolistes. *Three hours.* Professor CANFIELD.

21. History of French Literature in the Seventeenth, Eighteenth, and Nineteenth Centuries. A general survey. Lectures, readings, and reports. *Two hours.* Professor LEVI.

23. Proseminary in French Literature. The early works of Victor Hugo. *Two hours.* Professor CANFIELD.

25. Historical French Grammar. I. Phonology. Lectures, with illustrative Old French readings. *Two hours.* Professor CANFIELD.

27. History of French Literature to the end of the Fifteenth Century. Lectures, readings, and reports. *Two hours.* Dr. HAMILTON.

29. French Versification. A critical and historical study of French verse structure from its origin to the present. *Two hours.* Assistant Professor THIEME.

31. Journal Club. Reviews of results of current research in the field of the Romance languages and literatures, by the instructors of the department and advanced students.

SECOND SEMESTER

2. Elementary Course continued. Reading of Modern French prose and plays, with practice in speaking and composition. Nine sections. *Four hours.* Professors CANFIELD and LEVI, Assistant Professors DE PONT, EFFINGER, and THIEME, Dr. HAMILTON, and Mr. McLAUGHLIN.

2a. Continuation of Course *1a.* Two sections. *Four hours.* Dr. HAMILTON and Mr. McLAUGHLIN.

4. Reading of Modern French texts, with practice in speaking and writing French. Continuation of Course 3. Five sections. *Four hours.* Assistant Professors DE PONT, EFFINGER, and THIEME, Dr. HAMILTON, and Dr. WAGNER.

4a. Representative French Authors. Continuation of Course *3a.* *Four hours.* Assistant Professor THIEME.

4b. French Conversation. Same as Course *3b,* and not open to students who have taken that course. *One hour.* Assistant Professor DE PONT.

6. Advanced Prose Composition. Three Sections. *Two hours.* Assistant Professors DE PONT and THIEME, and Mr. MCLAUGHLIN.

8. The Drama of the Seventeenth Century. Continuation of Course 7. *Three hours.* Assistant Professor EFFINGER.

[10. Continuation of Course 9. French Society and Culture in the Sixteenth, Seventeenth, and Eighteenth Centuries. *Two hours.* Assistant Professor THIEME.

Omitted in 1905-1906.]

12. Rousseau. Reading of selected works, lectures, reports. *Two hours.* Professor CANFIELD.

14. Hugo and Balzac. Part II. Continuation of Course 13. The novels of Hugo and Balzac compared. Lectures, readings, reports, and discussions. *Two hours.* Professor LEVI.

16. The Dramatic Literature of the Nineteenth Century. Part II. Continuation of Course 15. *Three hours.* Assistant Professor EFFINGER.

18. Dramatists of the Eighteenth Century. Regnard, Marivaux. Destouches, Piron. Lectures, readings, reports. *Three hours.* Assistant Professor DE PONT.

20. Poetry of the Nineteenth Century, especially with reference to the growth and transformation of the Romantic Movement. Continuation of Course 19. *Three hours.* Professor CANFIELD.

22. History of French Literature in the Seventeenth, Eighteenth, and Nineteenth Centuries. Continuation of Course 21. *Two hours.* Professor LEVI.

24. Proseminary in French Literature. Continuation of Course 23. *Two hours.* Professor CANFIELD.

26. Historical French Grammar, II. Morphology. Lectures. *Two hours.* Professor CANFIELD.

28. Provençal. Outline of the grammar, with readings in Appel's *Provenzalische Chrestomathie.* *Two hours.* Dr. HAMILTON.

30. Teachers' Course. A general view of the elements of grammar from the standpoint of the needs of elementary instruction. *One hour.* Professor CANFIELD.

ITALIAN

FIRST SEMESTER

1. Italian Grammar. Easy Prose. *Three hours.* Professor LEVI. Course 1 is open only to students who have completed Courses 1 and 2 in French.

3. Dante. *La Vita Nuova* and *La Divina Commedia.* Lectures and recitations. *Two hours.* Professor LEVI.

SECOND SEMESTER

2. Continuation of Course 1. Modern readings. *Three hours.* Professor Levi.

4. Dante. *La Divina Commedia.* Continuation of Course 3. Lectures and recitations. *Two hours.* Professor Levi.

SPANISH

FIRST SEMESTER

1. Elementary Course. Grammar and easy reading. Two sections. *Three hours.* Dr. Wagner.

Course 1 must be preceded by Courses 1 and 2 in French.

3. Authors of the Nineteenth Century. Reading of modern texts. *Three hours.* Dr. Wagner.

5. Composition, with special reference to practical ends. Course 5 must be preceded by Courses 1 and 2. *Two hours.* Dr. Wagner.

7. Outlines of the history of Spanish Literature. Course 7 must be preceded or accompanied by Courses 3 and 4. *One hour.* Dr. Wagner.

SECOND SEMESTER

2. Elementary Course. Continuation of Course 1. Reading of modern prose and plays, with exercises in speaking and writing Spanish. Two sections. *Three hours.* Dr. Wagner.

4. Don Quixote. *Two hours.* Dr. Wagner.

6. Composition. Continuation of Course 5. *Two hours.* Dr. Wagner.

8. Outlines of the History of Spanish Literature. Continuation of Course 7. *Two hours.* Dr. Wagner.

GERMAN

Courses 7-42 are advanced undergraduate and graduate courses, and should be elected only after consultation with the instructors. The requirement for the Teachers' Diploma in German is twenty-five hours of work in the department selected after consultation with the professor in charge.

FIRST SEMESTER

1. Elementary Course. Pronunciation, grammar, easy readings, with practice in speaking and writing German. Eight sections. *Four hours.* Assistant Professor Hildner, Dr. Florer, Dr. Boucke, Dr. Eggert, Mr. Dieterle, Dr. Scholl, and Mr. Thurnau.

3. Modern Prose, narrative and dramatic, with practice in speaking and writing German. Nine sections. *Four hours.* Assistant Professor HILDNER, Dr. FLORER, Dr. BOUCKE, Dr. EGGERT, Mr. DIETERLE, Dr. SCHOLL, and Mr. THURNAU.

5. Third-year Electives. These may be taken as—

   5*a*. Schiller's *Wallenstein* and *Die Braut von Messina.* Two sections. *Three hours.* Professor WINKLER and Assistant Professor DIEKHOFF.

   5*b*. Goethe's *Götz von Berlichingen, Leiden des jungen Werthers,* and Schiller's *Kabale und Liebe. Two hours.* Assistant Professor HILDNER.

   5*c*. *Don Carlos* and *Jungfrau von Orleans. Two hours.* Dr. FLORER.

   5*d*. Lessing's *Hamburgische Dramaturgie. Two hours.* Assistant Professor HILDNER.

   5*e*. Heinrich von Kleist's *Käthchen von Heilbronn* and *Prinz von Homburg. Two hours.* Dr. BOUCKE.

7. Selected Readings from the Novels of Freytag, Scheffel, and Sudermann. *Two hours.* Dr. FLORER.

9. German Composition. Six sections. *Two hours.* Assistant Professors DIEKHOFF and HILDNER, Dr. EGGERT, Mr. DIETERLE, and Mr. THURNAU.

9*a*. Advanced German Composition. *Two hours.* Dr. BOUCKE.

11. German Conversation. Three sections. *Two hours.* Assistant Professor DIEKHOFF and Dr. EGGERT.

11*a*. Studies in Schiller's *Wilhelm Tell.* Primarily intended for teachers. *Two hours.* Professor WINKLER.

13. A Systematic Study of Modern German Grammar. Intended primarily for those who are preparing themselves to teach German. *Two hours.* Assistant Professor DIEKHOFF.

15. Goethe's *Faust.* Part I. Lectures and recitations. Thomas's edition. *Two hours.* Professor WINKLER.

17. History of German Literature. From the earliest times to the end of the Middle Ages. Lectures and selected readings. *Two hours.* Professor WINKLER.

19. German Romanticism. The beginnings of the Romantic Movement in its relation to the social, political, and philosophical thought of the times. Lectures, discussions, and assigned readings. *Two hours.* Professor WINKLER.

21. Proseminary in Modern German Literature. Studies in Herder. *Two hours.* Professor WINKLER.

23. Epochs in German Culture. Lectures and readings of selections from Freytag's *Bilder aus der deutschen Vergangenheit. Two hours.* Dr. BOUCKE.

25. The Early Dramas of Lessing. Lectures and reports. *Two* hours. Dr. FLORER.

27. Introduction to Middle High German. Lectures and recitations. Paul's *Mittelhochdeutsche Grammatik,* 4te Aufl., and *Bachmann's Mittelhochdeutsches Lesebuch. Two hours.* Assistant Professor DIEKHOFF.

27*a*. Middle High German. Advanced Course. Studies in Parzival. *Two hours.* Assistant Professor DIEKHOFF.

29. Old High German. Lectures based upon Braune's *Abriss der Althochdeutschen Grammatik,* 2te Aufl., and reading of selections from Braune's *Althochdeutsches Lesebuch,* 4te Aufl. *Two hours.* Assistant Professor DIEKHOFF.

[31. Old Saxon. Lectures and recitations. Holthausen's *Altsächsisches Elementarbuch,* and Behaghel's *Heliand. Two hours.* Assistant Professor DIEKHOFF.

Omitted in 1905-1906.]

37. The Elements of Phonetics, with special reference to the sounds of German, French, etc. *Two hours.* Professor HEMPL.

41. History of the German Language. *Two hours.* Dr. BOUCKE.

SECOND SEMESTER

2. Elementary Course. Grammar, descriptive prose, short stories, with practice in speaking and writing German. Eight sections. *Four hours.* Assistant Professor HILDNER, Dr. FLORER, Dr. BOUCKE, Dr. EGGERT, Mr. DIETERLE, Dr. SCHOLL, and Mr. THURNAU.

4. Two dramas of Lessing, Schiller or Goethe with collateral reading and practice in speaking and writing German. Nine sections. *Four hours.* Assistant Professor HILDNER, Dr. FLORER, Dr. BOUCKE, Dr. EGGERT, Mr. DIETERLE, Dr. SCHOLL, and Mr. THURNAU.

6. Third-year electives. These may be taken as—

6*a*. Goethe's *Iphigenie, Tasso,* and *Hermann und Dorothea.* Two sections. *Three hours.* Assistant Professor HILDNER and Dr. FLORER.

6*b*. Lessing's *Nathan der Weise. Two hours.* Assistant Professor DIEKHOFF.

6*c*. Lessing's *Laokoon.* A study of Lessing's essay with comparison of the critiques of Herder and Goethe. *Two hours.* Professor WINKLER.

6*d*. German Lyrics. Lyrics of Goethe, Schiller, Heine, Uhland, Geibel, etc. *Two hours.* Dr. EGGERT.

6*e*. Selected Dramas of Grillparzer. *Two hours.* Dr. BOUCKE.

8. Selected readings from the Novels of Auerbach, Spielhagen, Frenssen, etc. *Two hours.* Dr. FLORER.

10. German Composition. Continuation of Course 9. Six sections. *Two hours.* Assistant Professors DIEKHOFF and HILDNER, Dr. EGGERT, Mr. DIETERLE, and Mr. THURNAU.

10*a*. Advanced German Composition. Continuation of Course 9*a*. *Two hours.* Dr. Boucke.

12. German Conversation. Continuation of Course 11. Three sections. *Two hours.* Assistant Professor Diekhoff and Dr. Eggert.

14. A Systematic Study of Modern German Grammar. Continuation of Course 13. Intended primarily for those who are preparing themselves to teach German. *Two hours.* Assistant Professor Diekhoff.

16. Goethe's *Faust,* Part II. Continuation of Course 15. Thomas's edition. *Two hours.* Professor Winkler.

18. History of German Literature. From Luther to the death of Lessing. Continuation of Course 17. Lectures and selected readings. *Two hours.* Professor Winkler.

20. History of German Literature of the Nineteenth Century down to the Revolution of 1848. Continuation of Course 19. *Two hours.* Professor Winkler.

22. History of German Literature in the second half of the Nineteenth Century. *Two hours.* Professor Winkler.

26. Teachers' Course. Lectures, and discussions on the methods of teaching German and the organization of courses. *One hour.* Professor Winkler.

28. The Middle High German Folk-epic. Lectures and reading of portions of the *Nibelungenlied, Gudrun,* and minor epics. Continuation of Course 27. *Two hours.* Assistant Professor Diekhoff.

28*a*. Middle High German. A continuation of Course 27*a*. *Two hours.* Assistant Professor Diekhoff.

30. Old High German. Readings from Otfrid's *Evangelienbuch* and lectures on Old High German Literature. Continuation of Course 29. *Two hours.* Assistant Professor Diekhoff.

[32. Old Saxon. Continuation of Course 31. *Two hours.* Assistant Professor Diekhoff.

Omitted in 1905-1906.]

37*a*. The Teaching of Modern Languages. *Two hours.* Professor Hempl.

38. Life and Works of Luther. Lectures and assigned readings. *Two hours.* Dr. Florer.

39. Hans Sachs. Lectures, reading, and reports. *Two hours.* Assistant Professor Hildner.

40. Heinrich Heine. A comprehensive study of his life and works. Lectures and reports on assigned topics. *Two hours.* Dr. Boucke.

42. History of the German Language. Continuation of Course 41. *Two hours.* Dr. Boucke.

GOTHIC

FIRST SEMESTER

33. Lectures on Phonology and Morphology and reading of the Gospels. Wright's *Primer of the Gothic Language*. *Two hours.* Assistant Professor DIEKHOFF.

SECOND SEMESTER

34. The Epistles. Heyne's *Ulfilas,* 9te Aufl. *Two hours.* Assistant Professor DIEKHOFF.

SCANDINAVIAN

FIRST SEMESTER

[35. Old Icelandic. Introductory Course. Lectures and recitations. Kahle's *Altisländisches Elementarbuch*. *Two hours.* Dr. BOUCKE.

Omitted in 1905-1906; to be given in 1906-1907.]

SECOND SEMESTER.

[36. The Elder Edda. Jonson. *Eddalieder.* *Two hours.* Dr. BOUCKE.

Omitted in 1905-1906; to be given in 1906-1907.]

JOURNAL CLUB:—

Current Literature of German Philology and Literature. Meetings of instructors and advanced students in the German department are held every two or three weeks throughout the year, at which reports are made on important contributions to Germanic philology and literature.

ENGLISH PHILOLOGY AND GENERAL LINGUISTICS

The work of this department is concerned with the study of (1) the mother tongue, (2) the life and growth of language in general, and (3) the teaching of language. Courses 6, 7, and 9 are Teachers' Courses in the English department. Courses 4 and 11 are the same as Courses 37 and 37*a* in German. Course 2 is recommended in the various language departments to those intending to teach.

FIRST SEMESTER

3. Old English (Anglo-Saxon) for beginners. Intended to furnish (1) a practical introduction to the study of Old English for those who wish to devote themselves to the subject, (2) a basis for historical study of the language. *Two hours.* Professor HEMPL.

[1. Chaucer's English. A brief introduction to the subject, the private reading of several of Chaucer's works, and the study of Chaucer's English as compared with Modern English. *Two hours.* Professor HEMPL.

Omitted in 1905-1906.]

7. The History of the English Language. Lectures on the most important factors in the history of the language, together with the investigation of the cause and process of certain changes in usage. *Two hours.* Professor HEMPL.

13. English Etymology. A study of the origin of English words and of the changes they have undergone in form and meaning. *Two hours.* Professor HEMPL.

5. Special Problems. The investigation of special problems in English philology, dealing chiefly with the historical development of certain phases of English speech. *Two hours.* Professor HEMPL.

4. The Elements of Phonetics, with special reference to the sounds of German, French, etc. *Two hours.* Professor HEMPL.

Course 4 is expressly designed for candidates who are preparing themselves to teach modern languages.

5*c*. Comparative Philology. Lectures and recitations. A general introduction to comparative Indo-European and classical philology. Study of the relationships, classification, and general characteristics of the Indo-European languages, and discussion of the main questions of comparative phonology, morphology, and syntax. *One hour.* Assistant Professor MEADER.

SECOND SEMESTER

2. Principles of Linguistic Science. Lectures on the most important phases of the life and growth of language, together with the study of some of the simpler problems of general linguistics. *Two hours.* Professor HEMPL.

6*c*. Comparative Philology. Continuation of Course 5*c*. *One hour.* Assistant Professor MEADER.

8. Old English (Anglo-Saxon) Poetry. *Two hours.* Professor HEMPL.

[10. Old English (Anglo-Saxon) Prose. Lectures on the history of Old English sounds and forms, together with the private reading of Old English prose texts and the investigation of one or two problems. *Two hours.* Professor HEMPL.

Course 10 must be preceded by Course 3. Omitted in 1905-1906.]

9. Modern English Grammar. *Two hours.* Professor HEMPL.

Course 9 is intended especially for candidates preparing to teach English.

6. Spoken English, with special reference to American English. A study of colloquial English as distinguished from the English of books and artificial speech. It is the aim of the course to give to students who have not much acquaintance with foreign languages, some idea of the nature of language and the cause of diversity of usage in the different parts of the English-speaking world. *Two hours.* Professor HEMPL.

   Course 6 may be offered in place of Course 7 or Course 9 in fulfilment of the requirement for a Teacher's Diploma.

12. Special Problems. The investigation of special problems in English philology, dealing chiefly with the historical development of certain phases of English speech. *Two hours.* Professor HEMPL.

11. The Teaching of Modern Foreign Languages. *Two hours.* Professor HEMPL.

   Course 11 aims to provide for those who intend to be teachers of modern languages (1) a brief survey of the most important methods now employed, and (2) practical instruction in the conduct of the work of the first year.

ENGLISH

Courses 11, 12, and 14 are conducted on the seminary plan, the class being divided into small sections for the presentation of theses and reports, and for extempore discussion and conference. These courses are designed for advanced students only, and are usually taken by students in their last year of residence at the University.

Courses 4, 4*a*, 8, 10, 10*a*, 11, 12, and 14 will ordinarily be found suitable for graduate students as well as for undergraduates. In the case of students who have taken these courses for their first degree, special advanced courses are arranged for graduate study, after conference with the candidate. Some of the courses given in recent years are the following: The Development of the English Novel; The English Satirists of the Sixteenth, Seventeenth, and Eighteenth Centuries; The Romantic Revival in England at the close of the Eighteenth Century; The Pre-Shakespearean Drama in England; Shakespeare's Histories.

Students who desire to take a Teacher's Diploma in English and Rhetoric will be expected to complete Courses 5, 7 (or 9), 10, 10*a*, 11, and 12 in English, and Courses 3 (or 4), and 6 in Rhetoric. For Course 7 (or 9) Course 6 in English Philology may be substituted at the option of the student.

Courses 3, 7, 8, and 9 are identical with the corresponding courses in English Philology.

FIRST SEMESTER

1. English Literature. Historical Outline, with assigned readings. Two sections. *Two hours.* Assistant Professor STRAUSS.

Course 1 (together with Course 2) is designed to give a general introduction to the subject, preparatory to a more minute study of special periods.

3. Old English (Anglo-Saxon) for beginners. *Two hours.* Professor HEMPL.

5. English Literature. Chaucer. The General Prologue and six of the Canterbury Tales are read in the class room, with attention to language and antiquities, and with the purpose of giving an intelligent appreciation of Chaucer and his age. Most of Chaucer's poems are read outside by the students, and occasional lectures are delivered. Two sections. *Two hours.* Assistant Professor TATLOCK.

5*a*. English Literature. From the Renaissance to the death of Spenser. More, Wyatt and Surrey, Lyly, Sidney, and other writers; the new lyric poetry, formal satire, and the early novel; the drama from the Renaissance to Shakespeare. Lectures, reading, and recitations. *Three hours.* Assistant Professor TATLOCK.

6. English Literature. From Milton to Pope. *Three hours.* Assistant Professor STRAUSS.

7. The History of the English Language. *Two hours.* Professor HEMPL.

10. Poetics. The Epic and the Lyric. Lectures and discussions. *One hour.* Professor DEMMON.

Course 10 is especially designed to accompany Course 11.

11. English Literature Seminary. Study of Masterpieces: More's *Utopia;* Bacon's *Essays;* Milton's *Areopagitica;* Carlyle's *Sartor Resartus;* George Eliot's *Silas Marner;* Spenser's *Faery Queen,* Book I; Shakespeare's *Sonnets;* Milton's *Paradise Lost;* Dryden's *Absalom and Achitophel;* Wordsworth's *Excursion;* Tennyson's *Maud;* Browning's *The Ring and the Book;* Swinburne's *Atalanta in Calydon.* Six sections. *Two hours.* Professor DEMMON and Assistant Professor STRAUSS.

13. English Literature. Introduction to the Poetry of Browning. *Two hours.* Assistant Professor STRAUSS.

A study of selections from the *Dramatic Lyrics, Dramatic Romances, Men and Women, Dramatis Personae,* and of one or two of the dramas.

15. English Literature. The Thirteenth and Fourteenth Centuries. Lectures and readings, mainly in pre-Chaucerian Middle-English literature, illustrating Chaucer and the Middle Ages. *Two hours.* Assistant Professor TATLOCK.

Course 4 must be preceded or accompanied by a course in Chaucer.

17. Studies in the text of Shakespeare. *Two hours.* Professor DEMMON.

Course 17 is designed principally for graduate students. The aim will be to illustrate the methods of textual study as applied to a play like *Hamlet*, and the difficulties to be overcome in establishing a text. The McMillan Shakespeare Library affords a very full apparatus for these studies.

SECOND SEMESTER

2. English Literature. Historical Outline, with assigned readings. Continuation of Course 1. Two sections. *Two hours.* Assistant Professor STRAUSS.

5. English Literature. Chaucer. *Two hours.* Assistant Professor TATLOCK.

See note on English 5, in the first semester.

5*b*. English Literature. From the death of Spenser to the Restoration. Lectures and outside reading, with recitations on both. The course deals with the drama from Shakespeare to the closing of the theatres, including Shakespeare, Jonson, Beaumont and Fletcher, Webster, Middleton, Massinger and Ford; with Bacon, Browne, Burton, Izaak Walton, and other prose writers; and with Giles and Phineas Fletcher, Herbert, Herrick, Milton, and other poets. *Three hours.* Assistant Professor TATLOCK.

6*a*. English Literature. From Pope to Wordsworth. *Three hours.* Assistant Professor STRAUSS.

6*b*. English Literature. From Wordsworth to Tennyson. Wordsworth, Coleridge, Scott, Byron, Shelley, Keats, and other poets; Lamb, Hazlitt, Hunt, De Quincey, Scott, Jane Austen, and other prose writers. Lectures, reading, and recitations. *Three hours.* Assistant Professor TATLOCK.

8. Old English (Anglo-Saxon) Poetry. *Two hours.* Professor HEMPL.

9. Modern English Grammar. *Two hours.* Professor HEMPL.

This course is intended especially for candidates preparing to teach English.

10*a*. Poetics. The Drama. Lectures and discussions. *One hour.* Professor DEMMON.

Course 10*a* is especially designed to accompany Course 12.

12. Shakespeare Seminary. Plays selected: *A Midsummer Night's Dream; The Merchant of Venice; As You Like It; The Tempest; Richard III;* the two parts of *Henry IV; Henry V; Romeo and Juliet; Hamlet; Othello; King Lear; Macbeth; Coriolanus.* Six sections. *Two hours.* Professor DEMMON and Assistant Professor STRAUSS.

14. American Literature Seminary. Authors studied: Irving, Cooper, Bryant, Emerson, Hawthorne, Longfellow, Whittier, Poe, Holmes, Thoreau, Lowell, Taylor, Howells, and James. *Two hours.* Professor DEMMON.

Course 14 must be preceded by Course 11. Representative works of the authors named are studied and compared with masterpieces of British authors, and an attempt is made to discover the distinctively American element.

16. English Literature. From Chaucer to the Renaissance. *Two hours.* Assistant Professor TATLOCK.

The course in Chaucer is recommended as a preparation for this course. It will consist in lectures and outside reading on Chaucer, Gower, Langland, Mandeville, Malory, Skelton, the Scottish poets of the Fifteenth and Sixteenth Centuries, and other writers, and on the native origins of the English Drama.

RHETORIC

Courses 1 and 2 are required of all first-year students, and must precede all other courses.

Students who desire to take a Teacher's Diploma in English and Rhetoric will be expected to complete Courses 5, 7 (or 9), 10, 11, and 12 in English, and Courses 3 (or 4) and 6 in Rhetoric. For Course 7 (or 9) in English Course 6 in English Philology may be substituted at the option of the student.

The courses offered in this department are of three principal kinds: (1) Those intended primarily to give the student practice in the leading types of prose composition. These include Courses 1, 2, 3, 4, 13, and 14. (2) Courses intended primarily to familiarize the student with the fundamental principles of rhetoric and criticism. These include Courses 5, 7, 8, 9, 10, 12, and 15—Courses 7, 8, and 12 combining advanced composition with the study of rhetorical and critical theory. (3) A course (6) designed primarily for students who intend to teach.

Courses 1 and 2 are introductory in character. They aim to promote clearness and correctness of expression through practice in the simpler kinds of composition. Courses 3 and 4, in which there is systematic practice in the four principal types of prose composition, are intended to follow Course 2, and are usually taken the second year. Courses 3*a* and 4*a* may profitably be taken in connection with them. Courses 5, 12, and 14, being still more advanced, belong naturally in the third year. In Courses 7 and 8 it is assumed that the student has already acquired considerable proficiency in composition and is prepared to give attention chiefly to the discussion of principles. Courses 9 and 10 are planned solely for students who are working for the higher degrees, though seniors are sometimes admitted to them by special permission.

FIRST SEMESTER

1. Composition and Rhetoric. Sixteen sections. *Three hours.* Mr. THOMAS, Mr. MORRILL, Mr. KIRK, and Mr. BRUMM.

1*a*. Special Studies in Rhetoric. Four sections. *Three hours.* Mr. MORRILL, Mr. THOMAS, Mr. KIRK, and Mr. BRUMM.

Course 1*a* is intended for those who are fitted for work somewhat in advance of Course 1. The sections are small, and the students are encouraged to work rather individually than as a class.

3. Advanced Composition and Rhetoric. Essays in description and narrative. Two sections. *Two hours.* Professor SCOTT.

[3*a*. Studies in Diction and Usage. *One hour.*
Omitted in 1905-1906.]

7. Interpretations of Literature and Art. A discussion of critical principles, and their application in the appreciation and interpretation of specimens of literature and art. *Two hours.* Professor SCOTT.

Open only to students who have permission. The course is conducted as a seminary.

9. Seminary in Rhetoric and Criticism. *Two hours.* Professor SCOTT.

The subjects of discussion vary from year to year. Among the problems to be investigated are the following: The origins of prose; the development of paragraph structure; the theory of economy; the psychology of figures of speech; the sociological basis of the principles of usage; the morphology of publication; the rhythm of prose; the nature and origin of the leading types of discourse. In 1905-1906 a study is made of types of critical theory, from Plato to the present time. A few lectures are given on the general outlines of rhetorical theory, with special attention to the sociological and psychological interpretation of rhetorical processes.

Open only to graduate students.

[11. Prose Rhythms. The purpose of this course is the careful study and discussion of the principal theories regarding the nature and origin of typical English prose rhythms. A parallel study is made of poetic rhythms for purposes of comparison. The course is intended for advanced students. *One hour.* Professor SCOTT.
Omitted in 1905-1906.]

13. Newspaper Writing: Theory and Practice. Lectures, discussions, and practical work. *Credit arranged.* Professor SCOTT.

This course is intended for students who are preparing to do newspaper work. It is conducted as a seminary and is open only to students who obtain special permission.

A course in technical journalism is offered in the Department of Engineering.

14. The Theory and Practice of Argumentation. A study of the principles which underlie argument. Special attention is paid to the brief, and the relative value of various forms of proof. The course is intended for those who desire special training in argumentation. Open to students who receive special permission. *Two hours.* Mr. THOMAS.

15. Reporting and Editorial work. *One or two hours credit.* Professor SCOTT and Mr. CLARK.

This course is open only to editors and reporters of student publications, and to such students only by special permission.

SECOND SEMESTER

2. Composition and Rhetoric. Continuation of Course 1. Sixteen sections. *Three hours.* Mr. THOMAS, Mr. MORRILL, Mr. KIRK, and Mr. BRUMM.

2*a*. Special Studies in Rhetoric. Four sections. *Three hours.* Mr. MORRILL, Mr. THOMAS, Mr. KIRK, and Mr. BRUMM.

4. Advanced Composition and Rhetoric. Essays in Exposition and Argument. Two sections. *Two hours.* Professor SCOTT.

[4*a*. Studies in Diction and Usage. *One hour.*

Omitted in 1905-1906.]

[5. Principles of Style. *Two hours.* Mr. MORRILL.

The purpose in this course is to discover, from a critical study of illustrative selections, the principles governing the structure of the composition, the choice of words, and the development of the idea, in the best modern prose. The relation of the writer to his work and to his public receives some consideration. The selections are from Bunyan, Burke, Thackeray, Ruskin, Lowell, Carlyle, Newman, Addison, Macaulay, and others.

Omitted in 1905-1906.]

6. Teachers' Course. Methods of teaching English Composition and Rhetoric. *Two hours.* Professor SCOTT.

Course 6 includes (1) an outline of the underlying principles of rhetoric and composition, (2) a consideration of the problems of composition teaching, (3) a review of modern textbooks, (4) a discussion of methods of teaching as outlined in the literature of the subject. Each member of the class is required to do some teaching.

Course 6 must be preceded by Course 3 or Course 4. It is taken preferably in the senior year.

8. Prose Fiction. Studies in the structure and function of the leading types of prose fiction, including the short story. *One hour.* Professor SCOTT.

Open only to students who have permission. The course is conducted as a seminary.

10. Seminary in Rhetoric and Criticism. Continuation of Course 9. *Two hours.* Professor SCOTT.

Course 10 is open only to graduate students.

[12. Reviews. Essays, lectures, and discussions.

The aim of this course is to furnish instruction, and give practice, in the writing of book-reviews. A few lectures on standards of criticism and methods of reviewing are given and specimen reviews are analyzed in detail. *Two hours.* Professor SCOTT.

Omitted in 1905-1906.]

16. Reporting and Editorial Work. *One or two hours credit.* Professor SCOTT and Mr. CLARK.

Continuation of Course 15.

ELOCUTION AND ORATORY

For information regarding the University Oratorical Association, and the annual contests in oratory and debate, which afford opportunity for a practical applicatio of the principles taught, see p. 42.

FIRST SEMESTER

1. Elocution. Exercises in vocal culture, breathing, position, and technique of gesture; pronunciation and emphasis; the Rush and Delsarte philosophies; elements of quality and force, with their application. Delivery of short extracts from masterpieces of oratory. Two sections. *Two hours.* Mr. HOLLISTER.

2. Elocution. Exercises in vocal culture continued; elements of pitch and time, with illustrations; study and application of the principles of action; delivery of short extracts from masterpieces of literature. *Two hours.* Mr. HOLLISTER.

Course 2 must be preceded by Course 1 or an equivalent.

3. Study of Great Orators. Lectures on methods of public address and sources of power. Study of representative orations. Structure of the oration. Preparation and delivery of speeches. *Two hours.* Professor TRUEBLOOD.

Designed especially for those who desire at some time to enter the oratorical contests. Course 3 must be preceded by Courses 1 and 2 or their equivalent.

5. Debating. Study and application of the principles of argumentation. Preparation of briefs. Leading questions of the day debated in class. *Two hours.* Professor TRUEBLOOD.

This course is designed to develop readiness in extempore speaking. It is recommended especially to those who desire to enter the inter-collegiate debates. Course 5 must be preceded by Courses 1 and 2 or their equivalent.

7. Shakespearean Reading. Critical study of two plays. Analysis of character, plot, and incident. Expressional reading of principal scenes. Plays selected from the following: *Julius Caesar, Othello, The Merchant of Venice, Romeo and Juliet, The Tempest.* *Two hours.* Professor TRUEBLOOD.

Course 7 must be preceded by Courses 1 and 2 or an equivalent.

[7*a*. Shakespearean Reading. Critical study of two plays. Analysis of character, plot, and incident. Expressional reading of principal scenes. Plays selected from the following: *Coriolanus, King John, Henry VIII, Antony and Cleopatra, Comedy of Errors, Taming of the Shrew, Measure for Measure. Two hours.* Professor TRUEBLOOD.

Omitted in 1905-1906.]

SECOND SEMESTER

1. Elocution. Exercises in voice culture, breathing, position, and technique of gesture; pronunciation and emphasis; the Rush and Delsarte philosophies; elements of quality and force, with their application. Delivery of short extracts from masterpieces of oratory. *Two hours.* Mr. HOLLISTER.

2. Elocution. Exercises in vocal culture continued; elements of pitch and time, with illustrations; study and application of the principles of action; delivery of short extracts from masterpieces of literature. Two sections. *Two hours.* Mr. HOLLISTER.

Course 2 must be preceded by Course 1 or an equivalent.

4. Shakespearean Reading. Critical study of character, plot, and incident. Expressional reading of two plays. Plays selected from the following: *Macbeth, Richard III, Much Ado About Nothing, Henry IV* (Part I), *The Winter's Tale, A Midsummer Night's Dream.* Two sections. *Two hours.* Professor TRUEBLOOD.

Course 4 must be preceded by Courses 1 and 2 or their equivalent.

[4*a*. Shakespearean Reading. Critical study of character, plot, and incident. Expressional reading of two plays. Plays selected from the following: *Hamlet, King Lear, Henry V, As You Like It, Twelfth Night, Cymbeline.* Two sections. *Two hours.* Professor TRUEBLOOD.

Omitted in 1905-1906.]

6. Debating. Continuation of Course 5. *Two hours.* Professor TRUEBLOOD.

Course 6 must be preceded by Courses 1 and 2 or their equivalent.

MUSIC

The courses in Music are open to students who evince sufficient ability to pursue them with profit. Courses 1, 3, 5, and 7 are technical, and represent a course of professional training, for the completion of which four years are required. Courses 9, 11, and 13 are open to students who wish to study the historical development of music as well as its significance as an art. The instruments in the

Stearns Collection are used in these courses. An "Aeolian Orchestrelle" and a "Cecilian" are also used for purposes of illustration.

Practical Music.—Credit, not to exceed two hours per semester, will be given for advanced work in Pianoforte, Organ, Violin playing, and in singing, under conditions which may be learned on application to the professor of Music.

FIRST SEMESTER

1. Science of Harmony. *Two hours.* Professor STANLEY.
3. Simple Counterpoint. *Two hours.* Professor STANLEY.
5. Double Counterpoint. *Two hours.* Professor STANLEY.
7. Canon and Fugue. *Two hours.* Professor STANLEY.
9. History of Music. *Three hours.* Professor STANLEY.
11. Music in its Critical and Ethical Aspects. *Two hours.* Professor STANLEY.

SECOND SEMESTER

2. Science of Harmony. *Two hours.* Professor STANLEY.
4. Simple Counterpoint. *Two hours.* Professor STANLEY.
6. Double Counterpoint. *Two hours.* Professor STANLEY.
8. Canon and Fugue. *Two hours.* Professor STANLEY.
10. History of Music. *Three hours.* Professor STANLEY.
12. Music in its Critical and Ethical Aspects. *Two hours.* Professor STANLEY.
14. Evolution of Musical Instruments. *One hour.* Professor STANLEY.

HISTORY

The courses offered are, for convenience and clearness, arranged under two heads: (I) History, (II) Government.

I. In History the courses comprise: (*a*) Introductory courses (1 and 2); (*b*) intermediate courses (3, 4, 7 to 15, inclusive, 21, 38, and 39); (*c*) special advanced courses (5, 6, 17, 18, 23, 24, 25, and 26); and (*d*) a Teachers' Course (20). As a rule, Courses 1 and 2 should precede all others and should be taken in the order named.

II. In Government the courses treat (*a*) of political institutions and constitutional law (19, 22, 31, and 32); and (*b*) of administrative and municipal law (27, 28, 29, 30, 33, 34, and 36). As a rule, these courses are supplementary to those included in the previous subdivision.

For the Teachers' Diploma at least twenty-five hours' work in History is required. This work should, as a rule, include Courses 1, 2, 3, 4, 14, 15, and 20, and must include some advanced work under the direction of at least one of the instructors in History.

I. History.

FIRST SEMESTER

1. The General History of Europe, from the Fourth to the Thirteenth Century. Lectures. Quiz on lectures and reading.

Eight quiz sections. *Four hours.* Professor Dow, Mr. MARSH, and assistants.

3. The General History of England, to the accession of Henry VII. Lectures. Quiz on lectures and assigned reading.

Three quiz sections. *Three hours.* Assistant Professor CROSS.

5. Studies in English History during the Tudor and Stuart Periods.

Reports and discussions, with introductory and supplementary lectures. *Two hours.* Assistant Professor CROSS.

Open to those who have taken History 3 and 4, or an equivalent. The aim of the work is to enable the student to acquire an intimate acquaintance with a limited subject and to furnish training in the critical and constructive use of material. The subject treated in 1905-1906 is:

The Restoration and the Revolution of 1688-1689.

7. The History of Greece, to the Roman Conquest. Lectures, discussions, and collateral reading. *Three hours.* Assistant Professor CROSS.

9. Studies in Mediæval and Early Modern European History. Lectures, reports, and discussions. *Two hours.* Professor Dow.

Course 9 offers opportunity for more intensive study in some of the fields treated only generally in Courses 1 and 2. As a rule it is open to those who have had Courses 1 and 2, or an equivalent. It may be elected as follows:

9*a*. The Feudal Régime and the Progress of Towns, especially in France.

[9*b*. Studies in the Period of the Renaissance and the Reformation.

Omitted in 1905-1906.]

11. General History of Europe from the Peace of Westphalia to the Fall of Napoleon. Lectures. Quiz on lectures and reading.

Two quiz sections. *Three hours.* Professor HUDSON.

14. The Political and Constitutional History of the United States. From the outbreak of the Revolution to the Civil War. Lectures. Quiz on lectures and reading. Two quiz sections. *Three hours.* Professor McLAUGHLIN.

17. Seminary in American History. *Two hours.* Professor McLAUGHLIN.

Open only to graduates and to seniors obtaining special permission. This course is intended to offer training in the investigation of historical problems and practice in the handling of original material.

21. Europe in Asia and in Africa, with special attention to the relations of China and Japan with the western powers. *Two hours.* Professor HUDSON.

21*a*. Supplementary to Course 21, the object being to direct the reading of students in connection with the topics covered by the lectures. *One hour.* Professor HUDSON.

23. Russia: Its social, economic, and political condition, and its recent relations with China and Japan. *Two hours.* Lectures and reports. *Th, 4-6, or at hours to be arranged.* East Seminary Room. Professor HUDSON.

25. Seminary in Mediæval History. *Two hours.* Professor DOW.

The course is open only to graduates and to seniors with permission.

37. The History of the United States During the Civil War and the Period of Reconstruction. *Three hours.* Assistant Professor VAN TYNE.

39. Studies in American History. Reports and discussions. Two sections. *Two hours.* Assistant Professor VAN TYNE.

41. General Course in American History, from the time of the discovery to the present. *Three hours.* Professor MCLAUGHLIN and Assistant Professor VAN TYNE.

SECOND SEMESTER

2. General History of Europe, from the Thirteenth to the Eighteenth Century. Lectures. Quiz on lectures and reading. Eight quiz sections. *Four hours.* Professor DOW, Mr. MARSH, and assistants.

4. The General History of England, since the accession of Henry VII. Lectures. Quiz on lectures and assigned reading. Three quiz sections. *Three hours.* Assistant Professor CROSS.

This course is a continuation of History 5. The subject treated in 1905-1906 is:

The Reformation and the Revolution of 1688-1689.

8. The History of Rome, to the Founding of the Roman Empire. Lectures, discussions, and collateral reading. *Three hours.* Assistant Professor CROSS.

10. Studies in Mediæval and Early Modern European History. Lectures, reports, and discussions. *Two hours.* Professor DOW.

This course is a continuation of History 9. It may be elected as follows:

10*a*. Studies in later Mediæval History, with especial reference to France.

[10*b*. Studies in the Period of the Renaissance and the Reformation. Omitted in 1905-1906.]

12. The General History of Europe, since the French Revolution. Lectures. Quiz on lectures and on reading. Two quiz sections. *Three hours.* Professor HUDSON.

Course 12 is a continuation of Course 11.

13. American Colonial History. Lectures with assigned readings and written reports. *Three hours.* Assistant Professor VAN TYNE.

15. The Political and Constitutional History of the United States. Continuation of Course 14. Lectures. Quiz on lectures and assigned reading. Two quiz sections. *Three hours.* Professor MCLAUGHLIN.

See note to Course 14 in first semester.

18. Seminary in American History. Continuation of Course 17. *Two hours.* Professor MCLAUGHLIN.

Limited to graduate students and to seniors obtaining permission.

20. Course for Teachers. *One hour.* Professor MCLAUGHLIN and Assistant Professor VAN TYNE.

Open to students who have permission. Either this course or Course *20a* is required for the Teacher's Diploma in History.

20a. Course for Teachers, with special reference to European history. *One hour.* Professor DOW.

Open to students who have permission. Either this course or Course 20 is required for the Teacher's Diploma in History.

24. China and Japan: Their social, economic, and political conditions, and their relations with each other and with the western powers. *Two hours.* Lectures and reports. Professor HUDSON.

This course is an advanced course, and is open only to graduates and to seniors with permission.

26. Seminary in Mediæval History. Continuation of Course 25. *Two hours.* Professor DOW.

Course 26 is open only to graduates and to seniors with permission.

38. Studies in American History. Reports and discussions. Two sections. *Two hours.* Assistant Professor VAN TYNE.

42. General Course in American History, from the time of the discovery to the present. *Three hours.* Professor MCLAUGHLIN and Assistant Professor VAN TYNE.

II. Government.

FIRST SEMESTER

19. Constitutional Law and Political Institutions of the United States. *Three hours.* Professor MCLAUGHLIN.

27. Federal Administration. A study of the principles and machinery of the national administration in the United States. Lectures, reading, and essays. *Three hours.* Assistant Professor FAIRLIE.

29. Municipal Administration. The functions of city government. Lectures, text-book, and essays. *Three hours.* Assistant Professor FAIRLIE.

32. The Government of Michigan. Lectures, reading, and essays. *Two hours.* Assistant Professor FAIRLIE.

33. Seminary in Administration. Subject for 1905-1906: Local institutions in the United States. *Two hours.* Assistant Professor FAIRLIE.

SECOND SEMESTER

22. Comparative Study of the Political Institutions of France, Italy, Germany, Switzerland, and Austria-Hungary. Lectures. *Two hours.* Professor HUDSON.

22a. Supplementary to Course 22, the object being to direct the reading of students in connection with the topics covered by the lectures. *One hour.* Professor HUDSON.

28. State and Local Administration in the United States. Lectures, reading, and essays. *Three hours.* Assistant Professor FAIRLIE.

30. Municipal Administration. Organization of city government with a study of municipal politics. Lectures, essays, and reading. *Three hours.* Assistant Professor FAIRLIE.

31. English Political Institutions. Lectures with text-book. *Two hours.* Assistant Professor FAIRLIE.

34. Seminary in Administration. Local Institutions in the United States. *Two hours.* Assistant Professor FAIRLIE.

36. Comparative Administrative Law. Lectures and reading. *Two hours.* Assistant Professor FAIRLIE.

PHILOSOPHY

The courses in Philosophy are not open to first-year students. Courses 1 to 9, inclusive, precede all others, and any one of them may be chosen as the avenue of entrance to the study of philosophy and as introductory to other courses. Students should consult with the instructors before making elections.

Courses 1, 8, 8*b*, 9, 11*b*, 26, 26*b*, and Course 4 in Anatomy, are required of students who wish to obtain the Teacher's Diploma in Psychology.

FIRST SEMESTER

I. Introductory Courses.

1. Philosophical Introduction. The Meaning, Interest, and Scope of Philosophy. Lectures, discussions, exercises. Text-books: Hume's *Inquiry Concerning Human Understanding* and Wenley's *Outline Introductory to Kant's Critique of Pure Reason.* Eight discussion sections. *Three hours.* Professor REBEC and Mr. VIBBERT.

2. Principles of Ethical, Social, and Aesthetic Evolution. An introduction, on the basis of a study of mediævalism, to the origin and development of modern literary and political thought, and of modern views of society. Lectures. Collateral readings. Thesis. *Two hours.* Professor LLOYD.

[3. The Fundamental Conceptions of Modern Science in their Development and Implications. *Two hours.* Professor WENLEY.

Omitted in 1905-1906.]

[4. The Place of Doubt in Experience. A study of the rise and function of doubt, of the relation of doubt to belief, and of the relation of philosophy to the consciousness of practical life. Lectures, exercises, and collateral reading. *Two hours.* Professor LLOYD.

Omitted in 1905-1906.]

7. Elementary General Psychology. Lectures, assigned readings, and discussions. Text-book: Angell's *Psychology. Three hours.* Professor PILLSBURY.

8. Introductory Physiological and Experimental Psychology. Sensation, Attention, Perception. Lectures, discussion, and laboratory work. Text-books: James's *Principles of Psychology,* Kuelpe's *Outlines of Psychology,* or Sully's *Human Mind;* Titchener's *Laboratory Manual. Three, four,* or *five hours.* Professor PILLSBURY and Mr. SHEPARD.

II. Course in Logic.

10. Second Course in Logic. An introduction to the more concrete modern conceptions of thought and logic. Lectures and text-book. Bosanquet's *Essentials of Logic.* Mr. VIBBERT.

Course 10 is open to those who have had either Course 7 or Course 9.

III. Courses in History of Philosophy.

11. History of Ancient Philosophy. Lectures, reading, exercises. *Three hours.* Professor LLOYD and Mr. SELLARS.

12. Plato's *Republic.* Collateral reading and reports. Text-books: Davies and Vaughan's Translation; Bosanquet's *Companion to the Republic. Two hours.* Mr. SELLARS.

15. The Development of American Ideals. Origins; Edwards and the theological period; the Eighteenth Century and Revolution; the Unitarian movement; Transcendentalism; influence of the Scottish school and of H. Spencer; modern movements in psychology and systematic philosophy. *Two hours.* Professor REBEC.

16. Political Philosophy. *Two hours.* Professor LLOYD.

21. Kant and the Critique of Pure Reason. Text-books: Watson's *Selections from Kant,* and Wenley's *Introduction to the Critique.* Discussion, reading, and theses. *Two hours.* Professor LLOYD, Mr. VIBBERT, and Mr. SELLARS.

IV. Special Courses.

17. Philosophy of Religion. Lectures, readings, theses. Special attention is given to the rise and disappearance of natural theology; to speculative theology; and to strictly contemporary problems. *Two hours.* Mr. SELLARS.

18. Aesthetics. Lectures, reading, discussions. *Two hours.* Professor REBEC.

19. Logic and Theory of Knowledge. A study of fundamental problems with special reference to the possible grounds of realistic experience. Lectures, exercises, and collateral reading. *Two hours.* Professor LLOYD.

V. Courses in Psychology.

26. A Study of Apperception. Teachers' Course. An introductory treatment of the psychological principles that underlie educational theory and practice. *Two hours.* Professor PILLSBURY.

27. Advanced Course in Experimental Psychology. Original investigation. *Two, three,* or *six hours.* Professor PILLSBURY and Mr. SHEPARD.

VI. Graduate Seminaries.

29. Graduate Seminaries. Arranged to give flexibility to the special work of graduate students. The work is apportioned as follows: Ancient Philosophy; Professors REBEC and LLOYD and Mr. SELLARS. History of Philosophy; Professor LLOYD. Philosophy of Religion; Mr. SELLARS. Modern Philosophy; Professors LLOYD and REBEC, Mr. VIBBERT, and Mr. SELLARS. Ethics, Epistemology, and Metaphysics; Professor LLOYD, Mr. VIBBERT, and Mr. SELLARS. Logic and Æsthetics; Professor REBEC and Mr. SELLARS. Advanced General, Systematic, and Experimental Psychology; Professor PILLSBURY and Mr. SHEPARD.

SECOND SEMESTER

I. Introductory Courses.

1. Philosophical Introduction. Same as in first semester. Five discussion sections. *Three hours.* Professor Lloyd and Mr. Sellars.

5. Ethics of Social Evolution; a Study of Ethical Types as seen in Social and Industrial Relations. Professor Rebec.

6. Principles and Problems in Æsthetic History (Special Æsthetics.) A concrete and inductive study of æsthetic development. Relation of philosophy to the interpretation of art, especially of poetry. Lectures, reading, analysis and discussion of representative masterpieces. *Two hours.* Professor Rebec.

7. Elementary General Psychology. Same as in first semester. *Three hours.* Professor Pillsbury.

9. Introduction to Logic. Lectures, collateral reading, and text-book. Minto's *Logic, Deductive* and *Inductive. Three hours.* Mr. Vibbert.

II. Courses in History of Philosophy.

11*b*. History of Modern Philosophy. Lectures, reading, and reports. *Three hours.* Professor Lloyd, Mr. Vibbert, and Mr. Sellars.

[23. Hegel's System. Wallace's *Prolegomena* and *Logic of Hegel. Two hours.* Professor Wenley.
Omitted in 1905-1906.]

24. Philosophy since Hegel. *Two hours.* Professor Lloyd.
Courses 23 and 24 are given in alternate years.

25. Special Studies in the Philosophy of the Nineteenth Century. Supplementary to the graduate seminary. Discussions, readings, reports, theses. *Two hours.* Mr. Sellars.

III. Courses in Ethics.

13. Aristotle's Ethics. Collateral reading and reports. Text-book: Peters. *Two hours.* Mr. Vibbert.

20. Problems of Human Conduct. A study of the moral ideal, motive, and judgment of conscience and will. *Two hours.* Professor Lloyd, Mr. Vibbert, and Mr. Sellars.

IV. Special Courses.

14. Political Philosophy. A history of the theories of society, ancient and modern. Attention will be given especially to the contract theory of the seventeenth and eighteenth centuries. Lectures, discussions, theses. *Two hours.* Professor Lloyd.

19*b*. The Philosophy of Evolution. A criticism of Spencer; review of the recent theories; suggestions for a logic of the biological concepts. Lectures, exercises, and collateral reading. *Two hours.* Professor Lloyd.

[22. Philosophical Implications of Movements of Thought in the Nineteenth Century. Lectures, discussions. Special reference to evolution; materialism and agnosticism; the comparative method in history, criticism, and religion; philosophical systems. Monism and the future. This course is supplementary to the graduate seminary. *Two hours.* Professor WENLEY.

Omitted in 1905-1906.]

V. Courses in Psychology.

8*b*. Introductory Physiological and Experimental Psychology. Feelings, emotions, and the higher intellectual processes. Continuation of Course 8. *Three, four,* or *five hours.* Professor PILLSBURY and Mr. SHEPARD.

26*b*. Genetic Psychology. Teachers' Course. This course treats consciousness in its development, both in the animal series and in the child, and offers an opportunity, from the theoretical side, to prepare for the practical phases of child study in its relation to education. *Two hours.* Professor PILLSBURY.

28. Advanced Course. As in first semester. Professor PILLSBURY and Mr. SHEPARD.

VI. Graduate Seminaries.

30. Graduate Seminaries. As in first semester. Professors LLOYD, REBEC, PILLSBURY, Mr. VIBBERT, Mr. SELLARS, and Mr. SHEPARD.

THE SCIENCE AND THE ART OF TEACHING

Students intending to pursue work in the Science and the Art of Teaching are urgently advised to take Courses 1 and 7 in Philosophy as preparatory. Courses 1 and 2 in Pedagogy should follow in the junior year, and electives for Teacher's Diploma in the senior year. Students desirous of specializing in School Administration are advised to take Course 19 in Sociology in conjunction.

Teacher's courses given in the several departments are announced in connection with those departments.

FIRST SEMESTER

1. History of Education. Lectures, recitations, assigned readings, reports, discussions. Four sections. *Three hours.* Professor WHITNEY and Mr. DAVIS.

This course aims at the development of educational theory and practice in its relation to the history of civilization.

3. Theoretical and Critical Pedagogy. The application of functional psychology to problems in general method. Text-book: Bagley's *The Educative Process. Three hours.* Assistant Professor DE LAGUNA.

5. School Administration. General school management, the arts of grading and arranging courses of study, teachers' meetings, how to estimate a teacher's work, etc. Recitations and lectures. Chancellor's *Our Schools, Their Administration, and Supervision* to be read in connection with lectures. *Three hours.* Professor WHITNEY.

9. Educational Thought of the Greeks. Text-books: Davidson's *Aristotle;* Plato's *Protagoras* and *Republic;* Burnet's *Aristotle on Education. Two hours.* Assistant Professor DE LAGUNA.

12. A critical study of Spencer's *Education* and Rousseau's *Emile.* Themes and Discussions. *Two hours.* Professor PAYNE.

14. Short studies in the History, Theory, and Art of Education. First series. *Two hours.* Professor PAYNE.

SECOND SEMESTER

2. Philosophy of Education. The general basis of educational policy. Lectures, recitations, and supplementary readings. *Three hours.* Five quiz sections. Assistant Professor DE LAGUNA.

7. Philosophy of Education. Recitations and lectures. Text-book: Rozenkranz's *Philosophy of Education. Two hours.* Professor WHITNEY.

8. School Administration. Consideration of elementary school arts, methods of teaching and of administration, analysis of text-books, inspection of schools, etc. Presentation of reports on assigned topics. *Three hours.* Professor WHITNEY.

10. Social Education. The school as a social factor in its relation to the child, the home, the community, the state, and the church. Discussion of the relation of education to vocation and crime. Lectures and recitations. Dewey's *The School and Society. Two hours.* Professor WHITNEY.

11. Practical Hints. This course aims to discuss those problems which confront every inexperienced teacher at the outset of his career, such as his proper relation to those in authority, to the pupils, the parents, the community; also discipline, class organization and management, examinations, etc. *One hour.* Professor WHITNEY.

13. A critical study of Herbart's Pedagogy. Themes and discussions. *Two hours.* Professor PAYNE.

15. Short studies in the History, Theory, and Art of Education. Second series. *Two hours.* Professor PAYNE.

POLITICAL ECONOMY, INDUSTRY AND COMMERCE, AND SOCIOLOGY*

Political Economy.—The instruction in Political Economy is arranged to meet the needs of three classes of students. The first class comprises those whose principal work lies in other departments of instruction, but who desire a cursory introduction to the science. Students of this class are advised to take Courses 2 and 3. The second class comprises those who desire to make a fairly thorough study of economics, but who have not time to take the advanced or the semi-professional work offered. Such students are advised to begin their work with Course 2 and follow it with Course 5 (or 5*a*) and 6, and, if further time is available, with Course 3 or Course 9. The third class embraces those students who desire to make a thorough study of the science of economics, and especially those who wish to combine the study of political economy and finance with history, political science, and law for the purpose of preparing themselves for some one of the several professions or careers to which this group of studies naturally leads.

Industry and Commerce.—The courses in Industry and Commerce have for their special object the study of organization and processes of modern business. They are closely related to economics, both as a study of wealth production and as an account of the application of economic principles in industrial society. Some of them are technical in character and are intended to rank as semi-professional courses.

Sociology.—Work in Sociology may begin with either Course 19 or Course 22. The latter should be chosen by those who care only for the practical aspects of the subject, and who intend to take only one course. Neither course should be elected until the junior year.

FIRST SEMESTER

2. Elements of Political Economy. Introductory to all other courses in Political Economy. Lectures and quiz. Six quiz sections. *Four hours.* Professor TAYLOR and Dr. SMALLEY.

[5. Problems in Political Economy. The immigration problem, industrial crises, free trade and protection, the railway problem, the monopoly or trust problem, and taxation. Lectures and quiz. *Four hours.* Professor ADAMS.

Omitted in 1905-1906.]

Courses 5 and 5*a* are given in alternate years.

5*a*. Social and Industrial Reforms. Co-operation, profit-sharing, communism, socialism, factory legislation, workingmen's insurance, trades-unions, and industrial federation. Lectures and quiz. Three quiz sections. *Four hours.* Professor ADAMS.

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*The courses in these three subjects are, for convenience, enumerated together.

9. Theory and History of Money. *Two hours.* Professor TAYLOR.

12. Economic Theory. Advanced Course. Ingram's *History of Political Economy. Two hours.* Professor TAYLOR.

14. Seminary in Finance: Finances of the Federal Government. *Two hours.* Professor ADAMS.

15. Corporations. A study of corporations as a phase of industrial society. Lectures, assigned reading, and quiz. *Two hours.* Dr. SMALLEY.

19. Principles of Sociology. A systematic study of the underlying principles of social science. Cooley's *Human Nature and the Social Order.* Lectures and quiz. Three quiz sections. *Four hours.* Professor COOLEY.

21. The Development of Sociological Thought. For advanced students. *Two hours.* Professor COOLEY.

21*a*. Special work in Sociology with Graduate Students. Especially designed to meet the wants of candidates for the doctor's degree. Professor COOLEY.

23. Social Development of the Church. The relation of the church to the rest of society, both in the past and at the present time. For advanced students. *One hour.* Professor COOLEY.

Course 23 must be preceded by Course 19.

29. The Principles of Industry. A description and examination of (1) the physical factors in wealth production, such as the laws of matter and force, raw materials, sources of motive power, topography, climate, and geography; (2) the human factors, such as the physical and mental condition of the population, and the social, ethical, and political forces in their relation to industry. Lectures and quiz. *Three hours.* Professor JONES.

31. The Resources and Extractive Industries of the United States. A study of the natural and social resources of the United States, and of the chief extractive industries, with a view to determining their location, present condition, and relations to each other. Lectures and assigned readings. *Three hours.* Professor JONES.

33*a*. The Distributive Industries of the United States. The marketing of agricultural products. A study of the institutes of commerce. The various systems of marketing agricultural products, *viz.*, commission selling, co-operation, public market, private market, contract, and speculation are discussed. Lectures and assigned readings. *Two hours.* Professor JONES.

33*c*. Wholesale Trade. A description of brokerage, jobbing, commission selling, general and special stores, department stores, and mail-order houses. The principles and the practice of American wholesale establishments are discussed in detail. *Two hours.* Professor JONES.

41. Commercial Law. The fundamental principles of law, so far as these principles pertain to the ordinary activities of business life. Lectures, text-book, and quiz. *Two hours.* Dr. SMALLEY.

51. Lectures on Insurance and Investments. *Two hours.* Assistant Professor GLOVER.

The aim in Course 51 is to present such information as to transactions in insurance, annuities, and loans as may be of interest to the general student. The treatment calls for no mathematics beyond the elementary algebra required for entrance to the University.

53. Theory of Annuities and Insurance (I). *Two hours.* Assistant Professor GLOVER.

For further information see Course 53 in Mathematics.

55. Seminary in Insurance. Assistant Professor GLOVER.

60. Seminary in Commerce. Professor JONES.

SECOND SEMESTER

3. History of the Development of Industrial Society. A study of English industrial history from the Twelfth Century to the present time, designed to show how modern industrial customs and rights came into existence. Lectures and quiz. Three quiz sections. *Three hours.* Professor ADAMS and Dr. SMALLEY.

Course 3 should be preceded by Course 2 and by a study of English history.

4. Principles of Finance. Public expenditures, public revenue, and public credit. Three quiz sections. *Three hours.* Professor TAYLOR.

6. Transportation Problems. The social and industrial significance of modern transportation, the development of railway transportation in this country and in Europe; the administrative and legislative organization of railway systems; the history of the railway problems of the United States; control of railways through commissions. Lectures and quiz. Three quiz sections. *Three hours.* Professor ADAMS.

9*a*. Theory and History of Banking. The nature and social functions of banking, the natural laws of banking phenomena, systems of regulation, etc. *Two hours.* Professor TAYLOR.

10. Government Control of Industry. Special attention is paid to the problems of Labor and Capital, Trusts, Railroads, etc. *Two hours.* Dr. SMALLEY.

12*a*. Economic Theory. Advanced course. The history of opinion on the leading problems. *Two hours.* Professor TAYLOR.

17. Seminary in Economics. *Two hours.* Professor ADAMS.

22. Problems in Sociology. A study of laws of population, degeneration, the liquor problem, poor relief (public and private), vagrancy, crime and penology, the divorce problem, the assimilation of the foreign element in American population, the development of cities, the tenement question, slums, social settlements, and other sociological questions of present interest. Lectures, quiz, and assigned reading. Five quiz sections. *Four hours.* Professor COOLEY.

23*a*. Social Development of the Church. For advanced students. Similar to Course 23. *One hour.* Professor COOLEY.

24. Psychological Sociology. For advanced students. *Two hours.* Professor COOLEY.

24*a*. Special Work in Sociology with Graduate Students. Designed especially to meet the wants of candidates for the doctor's degree. Professor COOLEY.

30. The Principles of Industry. Continuation of Course 29. The fundamental technical and economic laws governing the chief groups of industry; agriculture, animal industry, the forest industry, fisheries, mining, and manufacture. The interaction of industries; the modern form of localization and specialization (economic geography). Lectures and quiz. *Three hours.* Professor JONES.

32. The Manufactures of the United States. A discussion of the evolution, present location, and condition of our chief manufacturing industries, and of the relations of these industries to one another, to sources of raw materials, to transportation and market facilities, and to foreign trade. Lectures and assigned readings. *Three hours.* Professor JONES.

33*b*. The Manufacturer's Problem of Distribution. The requirements of marketing as they affect the technique of manufacturing are discussed, together with the principles governing the determination of price and quality. The outlets employed in direct and indirect selling and the methods of stimulating trade are described in detail. All efforts to regulate competition in the sale of products, whether by trade-marks, the factor system, curtailment and price agreements, pools, consolidations, or through the laws of unfair trade are considered. *Two hours.* Professor JONES.

33*d*. Retail Trade. *Two hours.* Professor JONES.

38. Elements of Book-keeping. Fundamental principles of accounting and their application to simple businesses. Lectures, textbook, and exercises. *Three hours.* Mr. HARPHAM.

42. Commercial Law. Continuation of Course 41. Lectures, textbook, and quiz. *Two hours.* Dr. SMALLEY.

52. Mathematics of Insurance and Statistics. *Two hours.* Assistant Professor GLOVER.

Course 52 is open to those who have completed Courses 1 (or 1E) and 2 (or 2E) in mathematics. It includes an elementary treatment of the following subjects: Interest, interpolation, averages, mortality tables, annuities, computation of life insurance premiums, and reserves.

54. Theory of Annuities of Insurance (II). *Two hours.* Assistant Professor GLOVER.

For further information see Course 54 in Mathematics.

56. Seminary in Insurance. Assistant Professor GLOVER.

60. Seminary in Commerce. Professor JONES.

INTERNATIONAL LAW

FIRST SEMESTER

1. Lectures on International Law. *Two hours.* President ANGELL.

Course 1 is open to those who have sixty hours credit. The work must include two courses in History, as one of which Course 2 is especially recommended.

SECOND SEMESTER

2. History of Treaties. *Two hours.* President ANGELL.

Course 2 must be preceded by Course 1.

BIBLIOGRAPHY

FIRST SEMESTER

1. Historical. Bibliography or "The Evolution of the Book." Lectures. *One hour.* Professor DAVIS.

The lectures given during the month of October will be on the Catalogue and other Library Aids, on Books of Common Reference, and on New Books. Students desiring to attend these particular lectures may do so without electing the course.

SECOND SEMESTER

2. Practical Bibliography, or the Description, Care, and Use of Books. Lectures. *One hour.* Professor DAVIS.

MATHEMATICS

Courses 1E, 2E, 3E, 4E, 5E, and 6E are prescribed for students in the Department of Engineering. Courses 1, 2, 3, and 4, to be taken in their order, are intended for other students.

Courses 1, 1E, *1a*, 2, 2E, *2a*, 3, 3E, 4, 4E, 5E, 6E, 51, and 52 are intended primarily for undergraduates; Courses 5, 7, 8, 9, 10, 12, 13, 16, 19, 20, 25, 26, 27, 28, 53, and 54 are for undergraduates and graduates; Courses 11, 14, 17, 18, 21, 22, 24, 29, 30, 31, 32, 55, and 56 are primarily for graduates, though undergraduates of exceptional ability are admitted by special permission.

FIRST SEMESTER

1. Plane Trigonometry and Algebra. Seven sections. *Four hours.* Professor MARKLEY, Dr. RUNNING, Mr. ESCOTT, Mr. MARSHALL, Dr. BRADSHAW, Dr. FORD, and Mr. DAVIS.

1E. Algebra and Analytic Geometry (I). Sixteen sections. *Four hours.* Dr. PIERCE, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Dr. BRADSHAW, Mr. LOVE, and Mr. GARRETSON.

1*a*. Plane Trigonometry. Seven sections. *Two hours.* Dr. PIERCE, Dr. RUNNING, Dr. KARPINSKI, Mr. MARSHALL, Dr. BRADSHAW, Mr. LOVE, and Mr. GARRETSON.

3. Calculus (I). *Four hours.* Professor BEMAN.

3E. Calculus. Twelve sections. *Five hours.* Professors ZIWET and MARKLEY, Assistant Professor GLOVER, Dr. PIERCE, Dr. RUNNING, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Mr. MARSHALL, and Dr. FORD.

5. Solid Analytic Geometry. *Two hours.* Professor BEMAN.

5E. Calculus and Mechanics (II). Nine sections. *Three hours.* Professor ZIWET, Assistant Professor GLOVER, Dr. RUNNING, Dr. FIELD, Mr. MARSHALL, and Dr. FORD.

7. Projective Geometry. (I). *Three hours.* Dr. PIERCE.

9. Differential Equations. *Three hours.* Professor BEMAN.

11. Theory of Functions of Real Variables and Introduction to Theory of Functions of a Complex Variable. *Three hours.* Professor MARKLEY.

13. Higher Algebra (I). *Three hours.* Assistant Professor GLOVER.

17. Theory of the Potential. *Three hours.* Professor ZIWET.

19. Teachers' Seminary. Algebra. *Two hours.* Professor BEMAN.

Course 19 is open to those who have completed Courses 1, 2, 3, 4, or 1E, 2E, 3E, 4E.

21. Advanced Differential and Integral Calculus (I). *Two hours.* Professor BEMAN.

25. Differential Geometry (I). *Credit arranged.* Dr. PIERCE.

27. Theory of Numbers (I). *Two hours.* Mr. ESCOTT.

29. Harmonic Analysis (I). *Two hours.* Professor ZIWET.

31. Theory of Functions, including the theory of Elliptic Functions. Advanced Course. *Two hours.* Professor MARKLEY.

51. Lectures on Insurance. *Two hours.* Assistant Professor GLOVER.

Course 51 involves no knowledge of mathematics beyond the entrance requirements. For description see Course 51 in Political Economy.

53. Theory of Annuities and Insurance (I). *Two hours.* Assistant Professor GLOVER.

Course 53 is open to those who have completed Courses 3 (or 3E) and 4 (or 4E). It embraces a detailed study of the mathematical theory of interest and life contingencies.

55. Seminary in Insurance. *Credit to be arranged.* Assistant Professor GLOVER.

SECOND SEMESTER.

2. Plane Analytic Geometry. Seven sections. *Four hours.* Professor MARKLEY, Dr. RUNNING, Mr. ESCOTT, Mr. MARSHALL, Dr. BRADSHAW, Dr. FORD, and Mr. DAVIS.

2E. Analytic Geometry (II). Sixteen sections. *Four hours.* Dr. PIERCE, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Dr. BRADSHAW, Mr. LOVE, and Mr. GARRETSON.

2*a*. Spherical Trigonometry. *Two hours.* Dr. FIELD.

4. Calculus (II). *Four hours.* Professor BEMAN.

4E. Calculus and Mechanics (I). Twelve sections. *Five hours.* Professors ZIWET and MARKLEY, Assistant Professor GLOVER, Dr. PIERCE, Dr. RUNNING, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Mr. MARSHALL, and Dr. FORD.

6E. Calculus and Mechanics (III). Nine sections. *Two hours.* Professor ZIWET, Assistant Professor GLOVER, Dr. RUNNING, Dr. FIELD, Mr. MARSHALL, and Dr. FORD.

8. Projective Geometry (II). *Three hours.* Dr. PIERCE.

10. Quaternions. *Credit arranged.* Professor BEMAN.

12. Higher Algebra (II). *Three hours.* Assistant Professor GLOVER.

14. Theory of Functions of a Complex Variable. *Three hours.* Professor MARKLEY.

16. Advanced Mechanics. *Three hours.* Professor ZIWET.

18. Higher Plane Curves. *Two hours.* Professor BEMAN.

20. Teachers' Seminary. Geometry. *Two hours.* Professor BEMAN. See note to Course 19 in first semester.

22. Advanced Differential and Integral Calculus (II). *Two hours.* Professor BEMAN.

24. Linear Differential Equations. *Two hours.* Professor BEMAN.

26. Differential Geometry (II). *Credit arranged.* Dr. PIERCE.

28. Theory of Numbers. *Two hours.* Mr. ESCOTT.

30. Harmonic Analysis (II). *Two hours.* Professor ZIWET.

32. Theory of Functions. Continuation of Course 31. *Two hours.* Professor MARKLEY.

52. Mathematics of Insurance and Statistics. *Two hours.* Assistant Professor GLOVER.

Course 52 is open to those who have completed Courses 1 (or 1E) and 2 (or 2E). For description see Course 52 in Political Economy.

54. Theory of Annuities and Insurance (II). *Two hours.* Assistant Professor GLOVER.

This course must be preceded by Course 53, of which it is a continuation.

56. Seminary in Insurance. *Credit to be arranged.* Assistant Professor GLOVER.

PHYSICS

Courses designated by E are identical with courses prescribed for students in the Department of Engineering; those designated by M are intended for students in the departments of medicine.

FIRST SEMESTER

1. Mechanics, Sound, and Light. Lectures and recitations. Three sections. *Four hours.* **Professor Reed.**

   In Courses 1, 1E, and 1M a knowledge of plane trigonometry is essential.

1E. Mechanics, Sound, and Light. *Five hours.* Professor CARHART.

1M. Mechanics, Sound, and Light. *Five hours.* Dr. RANDALL.

3. Physical Laboratory Work for Beginners. *Two* or *three hours.* Mr. HENDERSON and Mr. MELLENCAMP.

3E. Laboratory Work in Mechanical and Electrical Measurements. *Three hours.* Mr. HENDERSON, Mr. MELLENCAMP, and Mr. BURROWS.

   Course 3 must be preceded or accompanied by Course 1, and Course 3E by Course 2E.

5. Electrical Measurements. Lectures, recitations, and laboratory work. *Four hours.* Dr. SMITH and Mr. MOREHOUSE.

   Course 5 must be preceded by Courses 1, 2, and 3*a* or 3*b*. A knowledge of calculus is also required.

6. Sound. Lectures and laboratory work. *Four hours.* Professor REED and Mr. HENDERSON.

   Course 6 must be preceded by Course 1 and by Course 3*a* or 3*b*. A knowledge of calculus is also required.

7. Intermediate Course in Electricity and Magnetism. *Two hours.* Professor CARHART.

   Course 7 must be preceded by Course 2. A knowledge of calculus is also required.

8. Theory of Heat: Preston. *Two hours.* Dr. RANDALL.

9. Heat. Laboratory work. *Two hours.* Dr. RANDALL.

   Course 9 must be preceded by Course 2.

10. Advanced Course in Electricity and Magnetism: Mascart and Joubert. *Three hours.* Professor PATTERSON.

    A knowledge of calculus is required.

13. Geometrical Optics. *Two hours.* Professor REED.

    Course 13 must be preceded by Course 1. A knowledge of calculus is required.

14. Sound. Advanced laboratory work. *Two hours.* Professor REED.

    Course 14 must be preceded by Course 6.

19. Physical Colloquium. Professors CARHART and REED.

Reports on original research, together with analysis and discussion of important articles in current physical literature. All instructors and assistants in the department take part in the Physical Colloquium. While intended primarily for graduate students, it is also open to undergraduates doing advanced work.

SECOND SEMESTER

2. Heat and Electricity. Lectures and recitations. Three sections. *Four hours.* Professor REED.

Course 2 must be preceded by Course 1; it also presupposes some knowledge of general chemistry.

2E. Heat and Electricity. Lectures and recitations. *Five hours.* Professor CARHART.

Course 2E is a continuation of Course 1E.

3. Physical Laboratory Work for Beginners. Repetition of Course 3. *Two or three hours.* Dr. RANDALL and Mr. MOREHOUSE.

3E. Laboratory Work in Mechanical and Electrical Measurements. *Three hours.* Dr. RANDALL, Mr. MOREHOUSE, Mr. HENDERSON, and Mr. MELLENCAMP.

4. Primary and Secondary Batteries. Recitations and laboratory work. Three sections. *Two hours.* Mr. MOREHOUSE.

Course 4 must be preceded by Courses 1, 2, 3*a* or 3*b*, and a course in General or Analytical Chemistry.

11. Theory of Light: Preston. Recitations and laboratory work. *Four hours.* Professor REED and Mr. HENDERSON.

Course 11 must be preceded by Course 6.

12. Electrical Measurements. Continuation of Course 5. Recitations and laboratory work. Three sections. *Three hours.* Dr. SMITH and Mr. HENDERSON.

15. Light. Advanced laboratory work. *Two hours.* Professor REED.

16. Thermodynamics. *Two hours.* Dr. RANDALL.

17. Alternating Current Phenomena: Steinmetz. *Two hours.* Professor PATTERSON.

18. Electrochemistry. Modern theories studied from the point of view of physics. *Three hours.* Professor CARHART.

20. Electricity and Magnetism. *Two hours.* Professor PATTERSON.

Course 20 must be preceded by Course 10.

CHEMISTRY

Those who are to take studies in both Chemistry and Physics are advised to begin Physics as early in these studies as they can. If Chemistry is to be the leading subject, it is especially advisable to take a course in Physics before Course 3 in Chemistry, and to take in all at least two semesters' study of Physics, for the benefit of its bearing upon the various branches of chemical work.

For a fuller description of chemistry studies, see "Announcement of Courses in Chemistry."

The courses numbered 1 to 10 give work upon the foundation of chemistry, in its several divisions. A sufficient number of these courses must be completed before entering upon the advanced studies of the science, or its special application to the industries and professions. It is stated for each course what other courses must precede it. Of the more advanced studies, Courses 13 to 24 are chiefly in General, Inorganic, and Physical Chemistry; Courses 27 to 40 in Analytical, Technical, and Applied Chemistry; Courses 42 to 51 in Organic Chemistry.

The requirement for the Teacher's Diploma in Chemistry is twenty-five hours of work in the department, selected after conference with the several professors.

Foundation Courses in Chemistry:

GIVEN EACH SEMESTER

2b. Elementary Inorganic Chemistry. Lectures and laboratory work. *Three to five hours.* Dr. HALE and Dr. BALCOM.

This course is for students who have had some chemistry, but not the full equivalent of Courses 1, *1a*, 2, and *2a*. It may be elected only after demonstration, satisfactory to the instructor, of a certain knowledge of chemistry, and with his express permission.

3. Qualitative Analysis. Laboratory work and recitations. Two sections. *Seven hours.* Professor JOHNSON and Mr. WILLARD.

Course 3 must be preceded by Courses 1, *1a*, 2 and *2a*, or *2b*.

In the second semester, there will be but one section. *Three hours.* Professor JOHNSON.

3a. Qualitative Analysis. Laboratory work and recitations. *Four hours.* Professor JOHNSON.

Course *3a* is not a complete course in itself, but should be followed by *3b*. Courses *3a* and *3b* together, cover the same ground as Course 3. Course *3a* must be preceded by 1, *1a*, 2 and *2a*, or *2b*.

In the second semester, there will be two sections. Professor JOHNSON and Mr. WILLARD.

3b. Qualitative Analysis. Laboratory work and recitations. *Four hours.* Professor JOHNSON.

Course *3b* must be preceded by *3a* or its equivalent.

5. Quantitative Analysis. Beginning Course. *Five hours.* Professor CAMPBELL and Mr. ZIMMERSCHIED.

Course 5 must be preceded by Course 3 or *3b*.

6. Inorganic Preparations. *Three to seven hours.* Professor BIGELOW and Dr. BALCOM.

Students electing this course must have completed Course 3 or *3b*.

Course 6 covers general chemistry in a way suited for those intending to teach.

9. Inorganic Chemistry. Descriptive and experimental lectures, including selected topics. Continuation of Courses 1 and 2. *Three hours.* Dr. BALCOM.

Course 9 must be preceded or accompanied by Course 3 or 3*a*.

GIVEN FIRST SEMESTER ONLY

1. Elementary Inorganic Chemistry. Lectures and recitations. *Two hours.* Dr. HALE.

Course 1 must be accompanied by Course 1*a*.

1*a*. Elementary Inorganic Chemistry. Laboratory work. *Two hours.* Dr. HALE, Mr. SMEATON, Dr. BALCOM, Dr. LIND, Mr. WURSTER.

Those electing Courses 1 and 1*a* are expected to elect Courses 2 and 2*a* the following semester, as they form one complete whole and should properly be considered as one course extending through the year. They must precede all other courses in chemistry.

7. Chemistry of Carbon Compounds. *Five hours.* Professor GOMBERG.

Course 7 must be preceded by Course 3 or 3*b*.

GIVEN SECOND SEMESTER ONLY

2 and 2*a*. Elementary Inorganic Chemistry. Continuation of Courses 1 and 1*a*, the hours, credits, and instructors being the same in each semester.

Course 2 must be accompanied by 2*a*.

8. Elementary Theoretical and Physical Chemistry. *Four hours.* Professor BIGELOW.

10. The Chemistry of Carbon Compounds. *Four hours.* Professor GOMBERG.

Course 10 must be preceded by Course 3 or 3*b*.

General and Physical Chemistry:

GIVEN EACH SEMESTER

13. Elementary Course in Physical Chemistry. *Four hours.* Laboratory work. Professor BIGELOW and Dr. LIND.

The determination of molecular weights by vapor density, freezing point, and boiling point methods, conductivity of electrolytes, optical measurements, thermometry, etc. The course must be preceded or accompanied by Courses 5 and 8.

16. Laboratory Research in Inorganic Chemistry. *Credit to be arranged.* Laboratory open all day. Professor BIGELOW or Dr. BALCOM.

17. Laboratory Research in Organic Chemistry. *Credit to be arranged.* Laboratory open all day. Dr. HALE.

18. Laboratory Research in Physical Chemistry. *Credit to be arranged.* Laboratory open all day. Professor BIGELOW.

Courses 16, 17, and 18 are intended for advanced students. They are open only to persons who receive special permission from the instructor. Students electing these courses must be able to read German and French, and must have a knowledge of inorganic, organic, and analytical chemistry.

19. Chemical Colloquium. Professor CAMPBELL.

The review of important researches recently published, with critical discussions. Reports upon investigations in this laboratory. All the instructors of the department are members of the Colloquium, and it is conducted by the several professors. Graduate students and those advanced in chemistry are eligible to membership.

20. German Reading. Two hours sight reading in the current literature. *One hour.* Mr. SMEATON.

This course is intended for advanced students in chemistry, and may be taken only by such as convince the instructor of their satisfactory preparation.

This course may be elected as 20 for the first semester, or as *20a,* by students who have had Course 20 but desire further practice in sight reading the second semester. The matter read is different each semester.

21. Research in Physical Chemistry. *Credit to be arranged.* Dr. LIND or Dr. BALCOM.

The course is open only to students who have had the important courses in physics and chemistry.

GIVEN FIRST SEMESTER ONLY

23. Advanced Theoretical and Physical Chemistry, with special reference to electrochemistry and chemical dynamics. *Two hours.* Dr. LIND.

This course is a continuation of Course 8, and must be preceded by Courses 8 and 13.

[25. Stereochemistry, including a general study of isomerism. Lectures. Dr. HALE.

Course 25 must be preceded by Course 7 or 10.

Omitted in 1905-1906.]

GIVEN SECOND SEMESTER ONLY

14. Electrochemistry. Lectures. *Two hours.* Dr. LIND or Dr. BALCOM.

The conductivity of electrolytes, electromotive force, study of electrolysis, etc. The course must be preceded by Courses 5 and 8.

15. History of Chemistry and Development of Chemical Theory. Lectures. *Two hours.* Dr. BALCOM.

24. Theory and Practice of Exact Measurements, with laboratory practice in glass blowing, calibration, and construction of apparatus. Lecture and laboratory. *Two* or *three hours.* Dr. LIND.

    Special permission must be obtained from the instructor in order to elect this course.

26. The Heterocyclic Derivatives in Organic Chemistry. *Two hours.* Dr. HALE.

    Course 26 must be preceded by Course 7 or 10.

Analytical and Applied Chemistry:

GIVEN EACH SEMESTER

28. Advanced Quantitative Analysis. *Five hours.* Laboratory work. Professor CAMPBELL and Mr. ZIMMERSCHIED.

    Course 28 is open to those who have taken Course 5 and Course 2 in Physics. Students cannot elect this course without special permission.

29. Iron and Steel Analysis. *Five hours.* Laboratory work. Professor CAMPBELL.

    Course 29 is open to those who have taken Course 28.

31. Independent Work in Mineral Analysis. Laboratory work. *Five hours.* Professor CAMPBELL.

    Course 31 must be preceded by Course 28. It is desirable that this course be preceded by Course 27 and also by Course 2 in Mineralogy.

34. Chemical Reading. Reading and seminary work. *One* or *two hours.* Professor CAMPBELL.

    Course 34 requires special permission.

35. Technical Gas Analysis, including Calorimetry and Photometry. Laboratory work. *Two hours.* Assistant Professor WHITE.

    Course 35 must be preceded by Course 5, and requires special permission.

36. Original Investigation in Qualitative Analysis. Laboratory work. *Credit to be arranged.* Professor JOHNSON or Mr. WILLARD.

    Course 36 must be preceded by Course 5, and requires special permission.

37. Original Investigation. Laboratory work. *Credit to be arranged.* Professor CAMPBELL or Assistant Professor WHITE.

    Course 37 is open only to those who have special permission.

39. Chemical Technology. Laboratory work. *Three to seven hours.* Professor CAMPBELL.

    Special permission must be obtained to elect this course, which must be preceded by Courses 28, 33, and such additional courses as the subject may require.

M. Qualitative Analysis. Laboratory work and recitations. Open only to those who have 60 hours credit in the Literary Department and who are pursuing the combined Literary-Medical Course. *Three hours.* Dr. DUNLAP.

GIVEN FIRST SEMESTER ONLY

32. Technical Examination of Gold and Silver Ores by the Fire Assay. Laboratory work with lectures and reading. Two sections. *Two hours.* Assistant Professor WHITE.

Course 32 must be preceded or accompanied by Course 28. Course 2 in Mineralogy is recommended.

33. Chemical Technology. A study of inorganic industrial chemistry. The chief subjects treated are fuels, water, the acid and alkali industry, cements, and glass. Lectures and assigned reading. *Five hours.* Assistant Professor WHITE.

Course 33 must be preceded by Course 3. Course 8, and Course 2 in Physics are recommended.

GIVEN SECOND SEMESTER ONLY

27. Chemistry of the Rare Elements. *Four hours.* Recitations, lectures, and laboratory work. Mr. WILLARD.

This course includes a study of the occurrence, uses, reactions, and the qualitative detection, both in artificial mixtures and in minerals, of the rare elements.

Course 27 must be preceded by Course 3 or 3*b*.

38. Chemical Technology. The industrial chemistry of organic compounds. Among the subjects treated are: starch, glucose, and sugar; fermentation and distillation; fats, oils, and soaps; bleaching and dyeing; tanning; paper manufacture. Lectures and assigned reading. *Five hours.* Assistant Professor WHITE.

Course 38 must be preceded by Courses 7 and 33.

Organic Chemistry:

GIVEN EACH SEMESTER

42. Organic Synthesis. Laboratory work. *Three, four,* or *five hours.* Professor GOMBERG and Dr. CONE.

Course 42 must be preceded by Course 5, and preceded or accompanied by Course 7.

43. Organic Synthesis and Ultimate Analysis. Laboratory work and reading. Continuation of Course 42. *Three, four,* or *five hours.* Professor GOMBERG and Dr. CONE.

47. Organic Analysis. The technical examination of various organic products such as are used in the arts, manufactures, etc. Laboratory work with collateral reading. *Credit to be arranged.* Dr. DUNLAP.

Course 47 must be preceded by Courses 5 and 7.

48. Research in Organic Chemistry. *Credit to be arranged.* Dr. DUNLAP.
This course is open only to those who have special permission.
The subjects for investigation are confined to oils, fats, waxes, foodstuffs, and to other organic products having a more or less technical application.

49. Original Investigation in Organic Chemistry. Laboratory work. *Credit to be arranged.* Professor GOMBERG.
Course 49 must be preceded by Courses 7 and 42, and requires special permission.

GIVEN FIRST SEMESTER ONLY

45. The Chemistry of Organic Dyes. *Two hours.* Dr. CONE.
This course is designed for advanced students and requires special permission.

GIVEN SECOND SEMESTER ONLY

44. The Chemistry of Alkaloids and Drug Assaying. *Four to seven hours.* Professor SCHLOTTERBECK.
Course 44 must be preceded by Courses 5 and 7.

46. Seminary in Special Topics. Lectures and reading. *Two hours.* Professor GOMBERG.
Course 46 must be preceded by Course 7 and preceded or accompanied by Course 42.

METALLURGY

FIRST SEMESTER

1. Fuel and Refractory Material, Iron and Steel. Two lectures and one recitation. *Two hours.* Professor CAMPBELL and Mr. ZIMMERSCHIED.
Course 1 must be preceded by Course 3 or 3*a* in Chemistry.

[2. Descriptive study of the influence of mechanical and heat treatment upon the microstructure and properties of metals and alloys. Lectures and reading. *One hour.*
This course must be preceded by Course 1.
Omitted in 1905-1906.]

3. Micrometallography. Laboratory course on the microscopic structure of metals and alloys as related to their physical and chemical properties. *One hour.* Mr. SMEATON and Mr. ZIMMERSCHIED.
This course must be preceded or accompanied by Course 2.

SECOND SEMESTER.

2. Lectures on Micrometallography. (See First Semester.)
3. Micrometallography. Laboratory work. (See First Semester.)

PHYSIOLOGICAL CHEMISTRY, BACTERIOLOGY, AND HYGIENE

The courses in these subjects, given by Professors VAUGHAN and NOVY, are arranged for the most part to meet the wants of students in the Department of Medicine and Surgery, and of students who propose to study medicine in the future.

GIVEN EACH SEMESTER

3. Practical Bacteriology. Laboratory work. *Three hours.* Professor NOVY, Mr. OWEN, and Mr. BURNETT.

Course 3 is designed especially for students who propose to study medicine, and is open to others only by permission.

4*a*. Bacteriology. Continuation of Course 4, including a study of the pathogenic protozoa. *Credit to be arranged.* Professor NOVY.

5. Water Analysis. Laboratory work. *Three hours.* Dr. EASTWOOD.

6. Food Analysis. Laboratory work. *Credit to be arranged.* Professor VAUGHAN and Dr. EASTWOOD.

7. Research Work. *Credit to be arranged.* Professor VAUGHAN or Professor NOVY.

9. Physiological Chemistry. Laboratory work. *Three hours.* Professor NOVY and Mr. NIMS.

10. Advanced Physiological Chemistry. Laboratory work. *Three hours.* Professor NOVY and Mr. NIMS.

GIVEN FIRST SEMESTER ONLY

2. General Bacteriology. Lectures. *Three hours.* Professor NOVY.

4. Bacteriology. Special methods. Laboratory work. *Three hours.* Professor NOVY.

Course 4 must be preceded by Course 3.

8. Physiological Chemistry. Lectures. *Three hours.* Professor VAUGHAN.

GIVEN SECOND SEMESTER ONLY

1. General Hygiene. Lectures. *Three hours.* Professor VAUGHAN.

ASTRONOMY

Courses 1 and 2 are mainly descriptive and deal with results; 3 and 4 treat of theory and methods and require night work at the Observatory during a portion of the semester. A knowledge of Integral Calculus is necessary for Course 5, which embraces the theory and practice of orbit determinations.

GIVEN EACH SEMESTER

3. Spherical and Practical Astronomy. Use of Sextant and Transit. *Two hours.* Professor HUSSEY.
4. Advanced Practical Course. *Credit to be arranged.* Professor HUSSEY.
5. Theoretical Astronomy. *Four hours.* Professor HUSSEY.

GIVEN FIRST SEMESTER ONLY

1. General Astronomy. The Solar System. *Two hours.* Professor HUSSEY.

GIVEN SECOND SEMESTER ONLY

2. General Astronomy. The Stellar System. *Two hours.* Professor HUSSEY.
6. Method of Least Squares Theory of Errors and Adjustment of Observation. *Two hours.* Professor HUSSEY.

MINERALOGY

Courses 1, 4, and 5 are designed to meet the needs of teachers, students of Civil Engineering, Forestry, and Pharmacy, and others who desire a general knowledge of the more common minerals and the methods employed in their determination. Courses 2 and 5 are especially adapted to students of Chemical Engineering and others who desire a more comprehensive knowledge of the subject. Courses 3 and 6 are primarily for graduates, but undergraduates may be admitted to them by special permission.

GIVEN EACH SEMESTER

1. Elements of Mineralogy. Includes the elements of crystallography, physical and chemical properties, occurrence, uses, and determination of the more common minerals. Lectures and laboratory work. *Two hours.* Assistant Professor KRAUS.

   For Course 1 a knowledge of elementary inorganic chemistry is necessary.

3. Crystal Measurements. Measurement, calculation, and projection of crystals. Lectures and laboratory work. *Three hours.* Assistant Professor KRAUS.

   Course 3 must be preceded by Course 2.

4. Determinative Mineralogy. This course is intended for students who have finished Course 1. Laboratory work. *Two hours.* Assistant Professor KRAUS.
5. Blowpipe Methods. Lectures and laboratory work. *Two hours.* Assistant Professor KRAUS.

   Course 5 must be preceded by Course 2, or Courses 1 and 4.

6. Research Work. For students, who are properly qualified, opportunity is given for original research along the lines of crystal measurements, chemical crystallography, or the formation and origin of minerals. Laboratory work. *Credit to be arranged.* Assistant Professor KRAUS.

GIVEN SECOND SEMESTER ONLY

2. General Mineralogy. Principles of crystallography, physical and chemical properties, origin, formation, decomposition, distribution, uses and determination of the more important minerals. Lectures and laboratory work. *Five hours.* Assistant Professor KRAUS.

   Course 2 must be preceded by Courses 2 and 3 in chemistry.

GEOLOGY

Courses 1, 2, 6, 7, and 8 are elementary courses intended primarily for undergraduate students. Course 6 meets the requirements for students of engineering. Courses 3, 4, and 9 are for graduate students, and undergraduates who have taken the elementary work indicated in each case, or an equivalent. Special courses are arranged for graduate students.

FIRST SEMESTER

1. Elements of Geology. Dynamic and Structural Geology pertaining especially to the United States. Text-book, illustrated lectures, recitations, reading, and a short thesis. *Three hours.* Professor RUSSELL.
2. Physiography. Teachers' Course. Lectures on the principles of physiography, with special reference to the geography of the United States; illustrated by photographs, models, maps, etc. Reviews of books on geography and travel required. *Three hours.* Professor RUSSELL.
3. Advanced Geology. Reading and conferences, with laboratory and field work. *Two hours.* Professor RUSSELL.

   Course 3 must be preceded by Courses 1 or 6, and 8.
4. Physical Geology. Volcanoes, igneous intrusions, metamorphism, etc. Text-book, conferences, and reading. *Two hours.* Professor RUSSELL.

   Course 4 must be preceded by Course 1 or 6.

SECOND SEMESTER.

6. Elements of Geology. Dynamic and Structural Geology. Lectures, recitations, reading, and short theses. *Three hours.* Professor RUSSELL.

   Course 6 is open only to engineering students.

7. Physiography. Teachers' Course. Reading and conference on the principles of physiography pertaining to the atmosphere and ocean. Special attention given to meteorology. *Three hours.* Professor RUSSELL.

Course 7 is a continuation of Course 2.

8. Elements of Geology. Historical Geology, dealing principally with the geological history of the United States. Text-book, illustrated lectures, recitations, and a short thesis. *Three hours.* Professor RUSSELL.

Course 8 is a continuation of Course 1.

9. Glacial Geology. Lectures on existing glaciers and the records and history of the glacial epoch. Thesis. Field excursions. *Two hours.* Professor RUSSELL.

Course 9 must be preceded by Course 1 or 6.

GENERAL BIOLOGY

FIRST SEMESTER

1. Elements of Biology. A study of typical species of plants and animals with reference to structure, function, development, and relationship. Lectures and laboratory work. *Four hours.* Dr. POLLOCK and Dr. NEWMAN.

SECOND SEMESTER.

2. Elements of Biology. Continuation of Course 1. Lectures and laboratory work. *Four hours.* Dr. POLLOCK and Dr. GLASER.

ZOOLOGY

All courses in Zoology, with the exception of Courses 3, 3*a*, and 7, should be preceded by Courses 1 and 2 in General Biology or their equivalent. The courses in General Biology may be accompanied by Courses 3 and 3*a*. The second year's work may be varied to suit individual needs. It may, for instance, consist of either (1) Invertebrate Zoology (Course 4) together with Courses 11 and 19, or of (2) Vertebrate Zoology (Courses 8 and 8*a*) or of (3) Embryology (Course 9), accompanied by Morphogenesis (Course 11), and followed by Physiological Zoology (Course 10), or Anatomy (Courses 5 and 5*a*). Two of the sets of courses mentioned above may be taken in a single year. The remaining courses should be taken under advice of the instructors.

Those preparing to teach should take as many as possible of the courses offered. For the Teacher's Diploma in Zoology, in addition to Courses 1 and 2 in General Biology, Courses 4*a* or 4*b*, 8 or 8*a*, 9 or 10, 11, 19 are required. Courses 18 and 18*a* are also of especial value to teachers.

FIRST SEMESTER

1. Elements of Animal Biology. A study of protoplasm, of the cell and its activities, and of the structure, development, and biology of invertebrate animal types selected to illustrate general principles. Lectures and laboratory work. *Two hours.* Dr. NEWMAN.

Course 1 is identical with the zoological part of Course 1 in General Biology.

3. Organic Evolution. Illustrated lectures, serving as an introduction to zoology. Evidences of evolution drawn from classification structure, development, palæontology, etc. Natural selection, inheritance of acquired characters, and the influence of environment. *One hour.* Professor REIGHARD.

4. Invertebrate Zoology. The structure, classification, distribution, and activities of invertebrate animals.

Course 4 may be elected as Course 4*a* or as Course 4*b*, which are given in alternate years.

[4*a*. Protozoa, cœlenterates, worms, crustaceans, and several smaller groups.

Omitted in 1905-1906.]

4*b*. Molluscs, echinoderms, myriapods, arachnids, and insects. Laboratory work and demonstrations. *Four hours.* Dr. CASTEEL.

Courses 4*a* and 4*b* complete the work in invertebrate zoology, begun in the first course in General Biology.

8. Vertebrate Zoology. The structure, classification, distribution, and habits of vertebrate animals (fishes, amphibians, and reptiles). Lectures with practical work in field and laboratory. *Four hours.* Professor REIGHARD.

9. Embryology of Vertebrates. A study of vertebrate development from the comparative standpoint. Lectures, laboratory work, and demonstrations. *Four* or *six hours.* Dr. GLASER.

6. Statistical Zoology. The aim of this course is to give the student practical experience in the collection and analysis of biometrical data. Laboratory work, conferences, and occasional lectures. *Credit arranged.* Dr. NEWMAN.

12. Current Literature of Zoology. The instructors and advanced students form a Journal Club, which holds weekly meetings. Research work done by members of the zoological staff, and important current papers are made the subjects of reports and of informal discussion. *One hour.* Professor REIGHARD.

14. Research Work.

For the year 1905-1906 the following lines of work were offered:

By Professor REIGHARD:

The embryology of the lower vertebrates.

The behavior of fishes and other lower vertebrates in their natural environment.

By Dr. GLASER:

The experimental study of asymmetry.

By Dr. CASTEEL:

Habits of insects,—particularly certain hymenoptera.

By Mr. C. C. ADAMS:

Local problems in field ecology.

Course 14 may be elected as 14*a, two hours;* 14*b, three hours;* 14*c, five hours;* 14*d, ten hours.*

16. Systematic Zoology. A systematic study of the local fauna of the region about Ann Arbor.

The Fishes: Professor REIGHARD.

The Butterflies and Moths: Dr. NEWMAN.

The course may be elected as 16*a, two hours,* or 16*b, three hours.*

18. Laboratory Methods and Management. *Two hours.* Dr. CASTEEL.

22. Morphogenesis. Development, regeneration, and form-regulation. Lectures and discussions. *One hour.* Dr. GLASER.

Course 22 should be preceded by Course 9 in Embryology or an equivalent.

SECOND SEMESTER

2. Elements of Animal Biology; the Structure, Development, and Biology of a Typical Vertebrate (the frog). Lectures and laboratory work. *Two hours.* Dr. GLASER.

Course 2 is identical with the zoological part of Course 2 in General Biology.

3*a*. Heredity. An exposition and critical discussion of the results of recent investigations in heredity. Special attention is paid to the following topics: Physical and mental inheritance in man, Mendel's law, the law of ancestral inheritance, the practical application of known principles of heredity in animal breeding. Lectures. *Two hours.* Dr. NEWMAN.

19. Field Ecology. An introduction to the study of the relation of animals to their natural environment, as illustrated by the local fauna. Lectures, field and laboratory work. *Three hours.* Mr. CHARLES C. ADAMS.

11. Evolution Problems: Lectures, readings, and conferences. This course aims to give a practical appreciation of the development of the evolution theory since Darwin and of the bearing of that development on other fields of knowledge. *Two hours.* Dr. GLASER.

8*a*. Vertebrate Zoology. Continuation of Course 8. Birds and mammals. Lectures, laboratory and field work. *Four hours.* Professor REIGHARD.

10. Physiological Zoology. The general physiology of animals, dealing with the processes occurring in living matter. Lectures and laboratory work. *Four hours.* Dr. NEWMAN.

7. The Fish and Fisheries of Michigan. The fresh water fishes, their habits, commercial value, mode of capture and of propagation. *One hour.* Professor REIGHARD.

Course 7 is designed for students of forestry.

5. Mammalian Anatomy. The anatomy of the cat. Laboratory and class work. *Four hours.* Dr. CASTEEL.

5*a*. Vertebrate Comparative Anatomy. Supplementary to Course 5. Lectures and laboratory work. *Two hours.* Dr. CASTEEL.

6*a*. Statistical Zoology. A continuation of Course 6. *Credit arranged.* Dr. NEWMAN.

13. Current Literature of Zoology. Continuation of Course 12. *One hour.* Professor REIGHARD.

15. Research Work in Zoology. Continuation of Course 14. It may be elected as 15*a, two hours;* 15*b, three hours;* 15*c, five hours;* 15*d, ten hours.*

17. Systematic Zoology. Continuation of Course 16. Professor REIGHARD and Dr. NEWMAN.

18*a*. Continuation of Course 18. *Two hours.* Dr. CASTEEL.

BOTANY

Courses 1 and 2 in General Biology must precede all courses in Botany, except Courses 4, 6, and 28.

Courses 1, 2, 3, and 6 are intended primarily for undergraduates. Courses 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, and 28 are for graduates and undergraduates. Courses 19, 20, 21, 22, 23, 24, 25, and 26 are primarily for graduates, but undergraduates may be admitted to them by special permission.

Students preparing to teach botany should take Courses 1, 2, 3, 7, 8, 10*a*, 12, and 16. Students preparing for the profession of forestry should take Courses 1, 2, 3, 7, 8, 9, 10, 12, 13, and 14.

FIRST SEMESTER

1. Elements of Biology (Plant Life). A study of the properties and activities of protoplasm, developmental history, evolution of structure and function, and relation to environment. The material for study will be selected from simple organisms, chiefly algæ and fungi. Lectures and laboratory work. *Two hours.* Dr. POLLOCK, Dr. BURNS, and Mr. KAUFFMAN.

Course 1 is identical with the botanical part of Course 1 in General Biology.

1*a*. Morphology, Physiology and Classification of Algæ and Fungi. *One hour.* Mr. KAUFFMAN.

Course 1*a* must be preceded or accompanied by Course 1.

3. Reproduction and Embryology of Flowering Plants. Lectures and laboratory work. *Two hours.* Professor NEWCOMBE.

7. General Morphology and Physiology. Cell structure, tissue structure, and organography; the cell theory, mitosis, and heredity, instruction in technique. Lectures and laboratory work. *Five hours.* Professor NEWCOMBE.

9. Morphology and Classification of Fungi. *Three or more hours.* Dr. POLLOCK.

Courses 4 and 9 are preparatory to research in pathology.

11. Experimental Physiology. Special Problems. *Two or more hours.* Professor NEWCOMBE.

Course 11 is introductory to research.

13. Biological Relations of Plants. Lectures, reviews of recent literature, field studies, and laboratory work. *Two or more hours.* Dr. BURNS.

15. Variation under Natural and Artificial Conditions. Evolution of form and habit in adaptation to environment. Regeneration of lost parts. Cross and self-fertilization, hybridization, the production of varieties of cultivated flowers, vegetables, and fruits. Lectures, laboratory and field work. *Two or more hours.* Dr. BURNS.

17. Laboratory Methods and Management. *Two hours.* Professor NEWCOMBE.

19. Investigations in Physiology. This work may be elected as 19*a*, *three hours; 19b, five hours; 19c, eight hours; 19d, ten hours.* Professor NEWCOMBE.

21. Investigations in Mycology and Plant Diseases. This work may be elected as *21a, three hours; 21b, five hours; 21c, eight hours; 21d, ten hours.* Dr. POLLOCK.

23. Investigations in Bionomics. This work may be elected as *23a, three hours; 23b, five hours; 23c, eight hours; 23d, ten hours.* Dr. BURNS.

25. Current Literature of Botany. *One hour.* Professor NEWCOMBE.

Course 25 constitutes a Journal Club in which important papers on botany are reviewed and discussed by the instructors and advanced students.

SECOND SEMESTER

2. Elements of Biology (Plant Life). Continuation of Course 1, embracing the alteration of generations and general biology and physiology of liverworts, mosses, ferns, and gymnosperms. Lectures and laboratory work. *Two hours.* Dr. POLLOCK and Mr. KAUFFMAN.

2a. Morphology. Physiology and Classification of Liverworts, Mosses, and Ferns. *One hour.* Mr. KAUFFMAN.

This course is supplementary to Course 2 and must be preceded or accompanied by it.

4. Economic Botany. Relation of the science of botany to industry. Lectures, with accompanying demonstrations and lantern views. *Two hours.* Dr. BURNS.

6. Elements of Structural Botany. Lectures and laboratory work. *Three hours.* Professor SCHLOTTERBECK.

8. Mycology and Pathology. A study of the various groups of fungi, their life history and artificial cultivation, and their relation to plant diseases. Lectures and laboratory work. *Three hours.* Dr. POLLOCK.

10. Experimental Physiology. A study of the relation of plants to their environment as manifested by the phenomena of nutrition, growth, and irritability. Lectures and laboratory work. *Three* or *five hours.* Professor NEWCOMBE.

12. Field and Forest Botany. The identification of trees, shrubs, and herbaceous plants, and their grouping into societies; the relation of plants to light, soil, moisture, and the general factors in the environment. *Three hours.* Dr. BURNS.

14. Botanical Survey of the Huron Valley. A systematic study of the local flora. *Two* or *more hours.* Dr. BURNS.

16. Teachers' Conference and Field Club. Conferences and reports on lists of books, apparatus, material, and methods for high-school laboratories; made under the guidance of different members of the corps; methods of collecting and preserving material and conducting field observations. *One hour.* Professor NEWCOMBE.

18. Laboratory Methods and Management. Continuation of Course 17. *Two hours.* Professor NEWCOMBE.

20. Investigations in Physiology. This work may be elected as *20a, three hours; 20b, five hours; 20c, eight hours; 20d, ten hours.* Professor NEWCOMBE.

22. Investigations in Mycology and Plant Diseases. This work may be elected as *22a, three hours; 22b, five hours; 22c, eight hours; 22d, ten hours.* Dr. POLLOCK.

24. Investigation in Bionomics. This work may be elected as *24a, three hours; 24b, five hours; 24c, eight hours; 24d, ten hours.* Dr. BURNS.

26. Current Literature of Botany. Continuation of Course 25. *One hour.* Professor NEWCOMBE.

28. Biological Problems and Theories. The origin of life; theories of heredity; natural and artificial fertilization; development of the individual; mutation; Mendel's law for hybrids; mechanism and vitalism. *One hour.* Professor NEWCOMBE, Dr. POLLOCK, and Dr. BURNS.

This course of lectures is planned as a popular exposition of biological problems and theories of the present day.

FORESTRY

Course 1 is designed to meet the needs of teachers, students of political economy, and others who wish to acquire a general knowledge of forestry, and is open to students who have completed their second year of residence at the University. All other courses are for graduate students aiming to make forestry a profession, and are not open to undergraduate students. Courses *2a*, *2b*, and *2c* should be taken in the order named.

FIRST SEMESTER

1. Introduction to Forestry. A general presentation of the subject, its history, objects, and methods, as well as economic importance. Lectures. *Three hours.* Professor ROTH.

2a. Silviculture. Introductory, including the study of soils, climate, and other conditions of site, and their influence on forest growth. *Three hours.* Assistant Professor MULFORD.

2c. Silviculture. Care of forests, clearing and thinning, protection of forests against fire, insects, and other enemies. *Three hours.* Assistant Professor MULFORD.

3a. Forest Mensuration and Description. Methods of measuring the volume of the individual tree and of entire stands of timber; timber estimating; measurement of the rate of growth of trees and stands; methods and manner of describing a tract of forest so as to render possible its proper management. Lectures, laboratory and field work. *Three hours.* Assistant Professor MULFORD.

5a. Forest Management. General forest surveys and preparation of working plans; administration and regulation of the field and office work in the care of a large tract of timber, and the methods of calculation involved in judging the value of forests and forest operations. Lectures and field work. *Five hours.* Professor ROTH.

8. Seminary. Professor ROTH and Assistant Professor MULFORD.

SECOND SEMESTER

2b. Silviculture. Methods of artificial and natural reproduction, seedbed and nursery work, planting and sowing in forests, reforestration of denuded lands, treatment of prairies, dunes, etc. Lectures and field work. *Three hours.* Assistant Professor MULFORD.

3b. Forest Mensuration and Description. Continuation of Course *3a*. *Three hours.* Assistant Professor MULFORD.

4. Forest Utilization. Uses of timber; points of production and market; methods of lumbering, milling, and marketing; minor forest industries. Lectures. *Four hours.* Professor ROTH.

5*b*. **Forest Management. Continuation** of Course 5. *Five hours.* Professor Roth.

6. Dendrology. Monographic study of forest trees, their life history, distribution, requirements, behavior and possibilities in the forest. Lectures, laboratory and field work. *Three hours.* Assistant Professor Mulford.

8*a*. Seminary. Continuation of Course 8. Professor Roth and Assistant Professor Mulford.

PHYSIOLOGY

Work in physiology may advantageously be preceded by the following courses, or their equivalent: Course 1, Elements of Animal Biology; Course 5 in Animal Anatomy, or a course in descriptive and practical human anatomy, and lectures and laboratory work in Vertebrate Histology in the Medical Department; Courses 1 and 2 in Physics; Courses 1, 2, and 4 in General Chemistry; and Course 10 in Organic Chemistry.

FIRST SEMESTER

1. Lectures and Recitations. *Five hours.* Professor Lombard.

SECOND SEMESTER

1*a*. Lectures and Recitations. *Four hours.* Professor Lombard.

2. Continuation of Course 1. *Three hours.* Professor Lombard.

3. Laboratory Work. *Three hours.* Professor Lombard.

4. Physiological Experimentation. Teachers' course. *One hour.* Professor Lombard.

5. Physiological Experimentation. Research work. *Three hours.* Professor Lombard.

Course 5 is open only to those who have taken Course 3.

PHARMACOLOGY

SECOND SEMESTER

1. Experimental Pharmacology. Laboratory work. Investigation of the effects of chemical agents (drugs and poisons) on living animals and tissue; examination of the symptoms induced and their explanation on the basis of physiology and chemistry. *Three hours.* Dr. Edmunds.

ANATOMY

GIVEN EACH SEMESTER

2. Practical Anatomy. Laboratory, lectures, and recitations. *Four hours.* Professor McMurrich, Dr. Yutzy, and Dr. Bean.

3. Practical Anatomy. Laboratory, lectures, and recitations. *Four*

hours. Professor McMurrich, Dr. Yutzy, and Dr. Bean.

Courses 2 and 3 are both required for the completion of the laboratory work in human anatomy.

6. Anatomy of the Central and Peripheral Nervous Systems and Special Sense Organs. Laboratory and reading. *Credit arranged.* Professor McMurrich and Professor Huber.
7. Research in Anatomy. Laboratory and reading. *Credit arranged.* Professor McMurrich.

FIRST SEMESTER

1. Osteology. Laboratory and recitations. *Two hours.* Professor McMurrich, Dr. Yutzy, and Dr. Bean.
4. Anatomy of the Nervous System. Lectures. *Two hours.* Professor McMurrich.

SECOND SEMESTER.

1a. Anatomy of the Joints and Ligaments. *Two hours.* Professor McMurrich.

3. General Anatomy. Continuation of Course 2. Lectures. *Two hours.* Professor McMurrich.
8. Histology and Histogenesis. Lectures and demonstrations. *Two hours.* Professor Huber.

HISTOLOGY AND HISTOGENESIS

FIRST SEMESTER

1. Histology, Histogenesis, and Embryology. Lectures, recitations, and demonstrations. *Two hours.* Professor Huber.

SECOND SEMESTER

2. Histology, Histogenesis, and Embryology. Lectures, recitations, and demonstrations. *Two hours.* Professor Huber.

GIVEN EACH SEMESTER

3. Laboratory Work in Histology. *Three hours.* Professor Huber and Dr. McNeal.

This course is designed especially for students who purpose to study medicine, and is open to others only by permission.

6. Methods of Vertebrate Histology and Embryology. Laboratory work and reading. *Credit arranged.* Professor Huber.
7. Research Work in Vertebrate Histology and Embryology. This course may be elected as *7a, three hours, 7b, five hours.* Professor Huber.

This course must be preceded by Course 1 in General Biology, and Courses 1, 2, 3, and 6 in Histology and Histogenesis.

8. Anatomy of the Central and Peripheral Nervous System and Special Sense Organs. See Course 6, under Anatomy.

DRAWING

FIRST SEMESTER

1. Geometrical Drawing. *Two hours.* Mr. Murphey.

2. Free-Hand Drawing. Pencil, pen and ink sketches. Two sections. *Three hours.* Miss Hunt.
Sections are limited in number to 30 students.

4. Descriptive Geometry. Recitations and Drawing. Seventeen sections. *Four hours.* Professor Denison, Assistant Professor Goulding, Mr. Wilson, Mr. Bartlett, Mr. Murphey, and Mr. Palmer.

5. Advanced Projections and Stereotomy. Three sections. *Four hours.* Professor Denison and Assistant Professor Goulding.
Course 5 must be preceded by Course 4.

8. Continuation of Course 7. *Two hours.* Miss Hunt.
This section is limited in number.
Course 8 must be preceded by Courses 2, 3, and 7.

9. Water-Color Drawing. Historic Ornament and Design. *Three hours.* Miss Hunt.

10. Free-Hand Lettering. *Two hours.* Assistant Professor Goulding.

SECOND SEMESTER

1. Geometrical Drawing. *Two hours.* Mr. Murphey.

2. Free-Hand Drawing. Pencil, pen and ink sketches. *Three hours.* Miss Hunt.
Section is limited in number to 30 students.

3. Free-Hand Drawing (Advanced). *Three hours.* Miss Hunt.
Course 3 must be preceded by Course 2.

4. Descriptive Geometry. Recitations and Drawing. Seventeen sections. *Four hours.* Professor Denison, Assistant Professor Goulding, Mr. Wilson, Mr. Bartlett, Mr. Murphey, and Mr. Palmer.

5. Advanced Projections and Stereotomy. *Four hours.* Professor Denison and Assistant Professor Goulding.
Course 5 must be preceded by Course 4.

6. Advanced Projections. *Two hours.* Professor Denison and Assistant Professor Goulding.
Course 6 must be preceded by Course 4.

7. Water-Color Drawing. *Two hours.* Miss Hunt.
Course 7 must be preceded by Course 2.

9*a*. Water-Color Drawing. Historical Ornament and Design. *Three hours.* Miss Hunt.

10. Free-Hand Lettering. *Two hours.* Assistant Professor Goulding.

11. Spherical Projections. *One hour.* Professor Denison.
Course 11 must be preceded by Course 4.

SURVEYING AND ENGINEERING

The courses in Surveying, Civil Engineering, Mechanical Engineering, Electrical Engineering, Chemical Engineering, Marine Engineering, and Naval Architecture are arranged primarily for students in the Department of Engineering, and are described in the chapter on that department, but they are open on certain conditions to students of the Department of Literature, Science, and the Arts.

ARCHITECTURE

Beginning with 1906-1907 courses in Architecture will be given in the Department of Engineering. These courses will be open also to students of the Department of Literature, Science, and the Arts.

PHYSICAL TRAINING

Work in the gymnasium, twice a week, is required of first year students. The work begins on the first Monday in November, but students are expected to report to the Director of the gymnasium between October 1 and October 25 for physical examination and assignment to sections. No credit toward graduation is given for this work.

COMBINED LITERARY AND MEDICAL COURSE

A candidate for a degree in the Department of Literature, Science, and the Arts, who has at least sixty hours to his credit, including the prescribed Rhetoric, and who has completed all the requirements for admission without condition to the Department of Medicine and Surgery may register in that department while continuing his registration in the Literary Department. Inasmuch as nearly all the subjects comprised in the first two years in the medical course are also open, on certain conditions, to students in the Literary Department, a person registered in both departments may so arrange his work as to secure the bachelor's degree in four years after admission to the Literary Department, and the degree in medicine four years from the date of registration in the Medical Department.

A student who wishes to avail himself of the opportunity here offered must first secure permission from the Dean of the department.

COMBINED LITERARY AND LAW COURSE

A candidate for the degree of Bachelor of Arts, who has been a student in the Department of Literature, Science, and the Arts for at least one semester and has ninety or more hours to his credit, including the prescribed Rhetoric, may, while continuing his registration in this department, also register in the Department of Law, if the work he has already completed includes a sufficient number of the courses enumerated below to enable him to complete within a year the specific requirement described in the following paragraph.

When a student so registered in the two departments has completed in the Department of Law the courses in Contracts, Torts, Personal Property, Elementary Real Property, and Agency, and has also done sufficient work in the Literary Department to bring his credits up to one hundred and five hours, of which at least thirty hours must have been earned in the Literary Department of this University, he will be recommended for the degree of Bachelor of Arts, provided his work has included: (1) History, Course 19, and (2) at least twenty-four hours selected from the following: History, Courses 3, 4, 11, 12, 14, 15, 22, 27, 28, and 31; Political Economy, Courses 3, 4, 5, 9, 19, and 22; Philosophy, Courses 1, 7, 9, and 14; International Law, Course 1; Latin, Course *7a*; and provided, further, that the courses selected include at least two of the four following courses: History 27; Philosophy 14; International Law 1; Latin *7a*. By availing himself of the privilege here offered a student may shorten by a year the time necessary for earning the two degrees, the bachelor's degree in arts and the bachelor's degree in law.

Application to enter upon the combined Literary and Law Course must be made during the first week of the semester by filling out and handing to the Dean a special election blank.

COURSE IN HIGHER COMMERCIAL EDUCATION*

The course in Commerce is organized as a special course in the Department of Literature, Science, and the Arts. Its aim is to give special training in the organization and processes of modern industry and to assist the student in the selection of such general courses, offered in the department, as will best supplement this training in preparation for a business life.

The course is administered by a committee of the Faculty. All students contemplating enrollment in the course should consult with the committee, in making elections, from the beginning of their University work.

In the case of candidates for a degree enrollment takes place at the beginning of the third year of residence in the University, and may be continued either for two years, leading to the bachelor's degree, or for three years, leading to the master's degree. During the first and second years of University residence it is essential that the student accomplish certain preliminary work, including History,

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*A special announcement of the course may be obtained by addressing Secretary James H. Wade. Correspondence may be directed to Professor Edward D. Jones, secretary of the committee.

Courses 11 and 12, Political Economy, Courses 2, 3, 29, and 30, and two years of French or German. Special students are permitted to enter the technical courses in the second year of residence.

Undergraduates enrolled in the course are expected to elect 10 hours per semester and graduate students 13 hours per semester from the special or technical courses in Commerce and Industry. At present 36 of these courses are offered, aggregating 81 hours. They include the following groups; Economics and Industrial History, Courses 2, 3, 5, 5*a*, and 22; Money, Banking, and Finance, 4, 9, and 9*a*; Industrial Technique, 29, 30, 31, and 32; Commerce and Transportation, 6, 33*a*, 33*b*, 33*c*, and 33*d*; Legal Studies, 41 and 42; Applied Science, Physics, 39, Botany, 4, Geology, 10, Forestry, 1 and 4; Insurance and Statistics, 51, 52, 53, and 54; Accounting and Business Organization, 6*a*, 35, 36, 37, and 38; Seminary in Commerce.

The privileges of the combined Literary and Law Course (see page 129) are open to candidates for the bachelor's degree in the course in Commerce having 90 hours credit.

Graduates are entitled to receive, in addition to their diploma, a certificate signed by the President stating the special or professional courses completed in the course in Commerce.

TEACHER'S DIPLOMA AND TEACHER'S CERTIFICATE

The aims of the University in providing instruction in the Science and the Art of Teaching, are as follows:

1. To fit the University students for the higher positions in the public school service.
2. To promote the study of educational science.
3. To teach the history of education, and of educational systems and doctrines.
4. To secure to teaching the rights, prerogatives, and advantages of a profession.
5. To give a more perfect unity to our State educational system by bringing the secondary schools into closer relations with the University.

TEACHER'S DIPLOMA

The Teacher's Diploma is given to a student in connection with his bachelor's degree, provided he has complied with the following conditions:

(1) He must have taken Courses 1 and 2, and additional work amounting to four hours in the Science and the Art of Teaching (see page 99).

(2) He must have taken such teacher's course or courses as may be prescribed in some other department of instruction.

(3) He must, in the judgment of his instructors, not only have an adequate knowledge of the subjects studied, but also possess other

qualifications essential to success in teaching; it being distinctly understood that work acceptable as a part of the requirements for graduation may not justify the granting of a teacher's diploma.

The Diploma is also given to a graduate student at the time of receiving a master's or a doctor's degree, provided he has pursued teaching as a major or a minor study, or has otherwise satisfactorily completed an equivalent amount of pedagogical work, and has also fulfilled the requirements (2 and 3) above.

TEACHER'S CERTIFICATE

By authority of an act of the State Legislature, passed in 1891, the Faculty of this Department gives a Teacher's Certificate to any person who takes a bachelor's, master's, or doctor's degree, and also receives a Teacher's Diploma as provided above. By the terms of the act, the certificate given by the Faculty "shall serve as a legal certificate of qualification to teach in any of the schools of this State, when a copy thereof shall have been filed or recorded in the office of the legal examining officer or officers of the county, township, city, or district."

TEACHER'S APPOINTMENT COMMITTEE

An appointment committee of the Faculty of the Department of Literature, Science, and the Arts, composed of representatives of the various departments of instruction, has been constituted for the purpose of assisting men and women who are studying, or have studied, under this Faculty, to secure positions as teachers. This service is performed gratuitously, in the interest of students of the University, past or present, and of superintendents of schools and boards of education wishing to employ teachers. Persons desiring to reach this committee should address their communications to the "Secretary of the Appointment Committee, University of Michigan."

FELLOWSHIPS, SCHOLARSHIPS, LOAN FUNDS, AND PRIZES*

Buhl Classical Fellowship.—Mr. Theodore D. Buhl, of Detroit, has generously continued the provision for a Classical Fellowship for the year 1905-1906 with an income of five hundred dollars. For the current year the income is divided between John G. Winter, A.M., and Loura Bayne Woodruff, A.M.

Newberry Classical Fellowship.—Mrs. Helen H. Newberry, of Detroit, has generously provided the sum of three hundred dollars for the continuance of a Fellowship in the Classics during the year

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*The most of the funds here mentioned are restricted in use to the Department of Literature, Science, and the Arts, though some of them are also available in other departments of the University.

1905-1906. The holder of the Fellowship is Elizabeth Ethel Sinclair, A.B.

The Peter White Classical Fellowship with an income of three hundred dollars has been provided for the year 1905-1906 by the Honorable Peter White, of Marquette. The holder of the Fellowship is Mary Louise Smith, A.B.

Peter White Fellowship in American History.—The Fellowship in American History provided by the Honorable Peter White, of Marquette, has been continued for the year 1905-1906. The income is four hundred dollars. The present holder of the Fellowship is John Sharpless Fox, A.B.

Dexter M. Ferry Botanical Fellowship.—The Fellowship in Botany provided by Mr. Dexter M. Ferry, of Detroit, has been continued for the year 1905-1906. The income is five hundred dollars. The present holder of the Fellowship is Rufus Percival Hibbard, A.B.

Angeline Bradford Whittier Fellowship in Botany.—This Fellowship has been established in memory of his mother by Joseph Bradford Whittier, of Saginaw. The principal sum of the endowment is four thousand dollars. The holder of the Fellowship for the year 1905-1906 is Alfred Dachnowski, A.M.

Fellowship in Chemistry.—The sum of five hundred dollars has been given by Messrs. Parke, Davis & Company, of Detroit, for the continuation in the year 1905-1906 of the Fellowship in Chemistry established by them in 1895. Professors VAUGHAN and BIGELOW are a committee to select the incumbent and to arrange the work in accordance with the wishes of the donors. The holder of the Fellowship for the current year is Horace John Howk.

Rockefeller Fellowship in Bacteriology.—The Rockefeller Institute for Medical Research has continued its grant for a Fellowship in Bacteriology for the year 1905-1906. The holder of the fellowship is Rudolf Ernst Knapp, B.S.

Charles James Hunt Fellowships.—In July, 1900, Mr. Charles James Hunt, of Detroit, a graduate of the University in the Class of 1846, and wife, conveyed by deed, to the Board of Regents, in trust, the title to certain pieces of real estate, subject to Mr. Hunt's life-interest in the income to be derived therefrom, and to the life-interests of other persons named in the deed. After the terminations of these life-interests "one or more fellowships in the University of Michigan" are to be established in accordance with conditions named in the deed of trust and in accompanying documents, and are to be known as the Charles James Hunt Fellowships.

Phillips Scholarships.—The late Henry Phillips, Jr., of Philadelphia, Pa., made provision in his will for the establishment and maintenance of six scholarships, to be known as the Phillips Scholarships, in the Department of Literature, Science, and the Arts of the University of Michigan. By the terms of the will these scholarships are to be given only to candidates for the degree of Bachelor of Arts, who excel in the Greek and Latin studies required for admission to the University; and they are to be awarded by a committee consisting of the President of the University, the Dean of the department, the senior professor of Greek, and the senior professor of Latin.

Of the six scholarships contemplated in the bequest three have been established, with an income of fifty dollars each. They are awarded to students, otherwise properly qualified, who by special examination show that they excel in the requirements for admission in Greek and Latin. The examination covers the ground included in two units of Greek and four units of Latin (see page 53). In 1905 scholarships were awarded to Winthrop Robbins Wright, Margaret Elizabeth Scott, and James Keer Watkins.

In 1906 the examination will be held on Saturday, October 13, and will be open only to students already admitted to the freshman class. Application for admission to this examination must be made to the Dean of the department on or before October 6, 1906.

Elizabeth A. Rathbone Scholarship.—The Michigan Chapter of the Society of Colonial Dames of America has established a Scholarship in American History with an income of one hundred fifty dollars. The scholarship is awarded by a committee composed of the President of the University, the professor of American History, and a committee representing the society. The present holder of the scholarship is Elizabeth Margaret Bush, A.B.

Lucinda Hinsdale Stone Memorial Scholarship.—The Michigan State Federation of Women's Clubs has presented to the University the sum of three thousand dollars, as a portion of a fund to be known as The Lucinda Hinsdale Stone Supplementary Loan Scholarship Fund, the income of which is to be administered by the President of the University, the Women's Dean, and a third person of their appointment (who shall be a woman), for the benefit of women who are students in the University. None of the income is available for the year 1905-1906.

Detroit High School Scholarships.—The alumni of the Detroit High School have established several scholarships open to graduates of that school. The first steps toward raising a fund for this purpose were taken in 1891; and a corporation has since been formed under the title of the Detroit High School Scholarship Fund Association.† From four to six students at a time usually enjoy the benefit of the fund. Several of the beneficiaries have received degrees at the University. One of the scholarships is known as the Mary C. Leete Memorial Scholarship, in memory of a teacher who died in 1894.

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†The State Legislature in 1893 passed an act providing "that five or more persons of full age, residing in the State of Michigan, may associate and incorporate themselves together for the purpose of establishing scholarships in the University of Michigan, for the benefit of graduates of the high schools of the State." A corporation organized in accordance with the provisions of this act "shall be under the general management of not less than five, nor more than fifteen trustees," and "shall, in law and equity, be capable of taking and receiving real and personal estate . . . . not exceeding one hundred thousand dollars in the aggregate, for the purpose of its incorporation."

Saginaw High School Scholarships.—Four scholarships, with an annual income of two hundred and fifty dollars each, established by the Honorable Arthur Hill, of Saginaw, W. S., and known as the John Moore, the Wells-Stone, the Alonzo R. Bingham, and the Otto Roeser scholarships, are open to graduates of the Saginaw, W. S., High School.

The Saginaw, E. S., High School offers several scholarships of varying amounts to deserving graduates of that school. One of these is known as the Heavenrich Brothers & Co.'s scholarship, and is provided by the mercantile firm of that name. Another, designated as the High School Scholarship, is cared for largely by the High School Lyceum. A third is known as the A. R. Loveland Scholarship. The graduating class of 1900 also made provision for a scholarship to be available every sixth year. These scholarships are all administered as loan funds.

Grand Rapids High School Scholarships.—The High School Scholarship Association of Grand Rapids is a body incorporated under the State law, for the purpose of assisting graduates of the Grand Rapids High School to secure a college education in the Department of Literature, Science, and the Arts, or the Department of Engineering, of the University of Michigan.

Perry Scholarship Fund.—The Alumni Association of the Ann Arbor High School, in 1898, established a fund, in memory of Walter Scott Perry, graduate of the University in the class of 1861, and for twenty-seven years Superintendent of the Ann Arbor Schools.

The purpose of the fund is to assist graduates of the school in procuring an education in the Department of Literature, Science, and the Arts of the University of Michigan. It is administered as a Loan Fund,* repayments to be made by beneficiaries under regulations prescribed by the Board of Directors of the High School Alumni Association.

Seth Harrison Scholarship Fund.—The Seth Harrison Scholarship Fund was established in memory of her father, by Mrs. Clara

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*In 1899 an act was passed by the State Legislature containing the following provisions: "Any five or more persons of full age residing in the State of Michigan may associate and incorporate themselves together for the purpose of establishing loan funds for the benefit of school scholars and students of this State, to assist them to attend the University of Michigan" (and other State educational instiutions). "All the funds received by any corporation organized under this act shall be used, after paying necessary expenses, for the exclusive purpose or purposes set forth in the articles of association. . . . Such corporation shall in equity and law be capable of taking and receiving real and personal estate . . . not exceeding twenty-five thousand dollars, in the aggregate, for the purpose of its incorporation."

Harrison Stranahan, of Brooklyn, N. Y. The principal of the fund was originally twenty-five thousand dollars, but this has been increased by additions from unexpended income. The income is to be used, on conditions specified in the covenant between Mrs. Stranahan and the Board of Regents, for the benefit of descendants of Seth Harrison who may be pursuing studies in the Department of Literature, Science, and the Arts of the University of Michigan, whenever applicants properly qualified present themselves. Provision is made, however, for applying the income of the fund to scholarships for other persons, "if at any time there shall be a period of seven years during which there are no qualified applicants," descendants of Seth Harrison.

Margaret Smith Hunt Scholarships, James B. Hunt Scholarship, and Charles James Hunt Scholarship.—In July, 1900, Mrs. Margaret Elsie Hunt, of Detroit, a student in the University in the year 1878-9, conveyed by deed to the Board of Regents, in trust, the title to certain pieces of real estate, subject to Mrs. Hunt's life-interest in the income to be derived therefrom. After the termination of this life-interest, "one or more scholarships in the undergraduate course of studies in the Department of Literature, Science, and the Arts" are to be established in accordance with conditions named in the deed of trust and in accompanying documents, and are to be known as the Margaret Smith Hunt Scholarships.

In February, 1902, Mr. and Mrs. Hunt conveyed by deed to the Board of Regents, in trust, the title to a certain other tract of land, subject to Mrs. Hunt's life-interest in the income to be derived therefrom and to certain other life-interests and conditions named in the deed. After the termination of these life-interests, and in accordance with conditions named in the deed of trust, and in accompanying documents, a portion of the income derived from the trust is to be devoted to the maintenance of the James B. Hunt Scholarship, so named in memory of the father of Charles James Hunt; a second portion to the maintenance of a scholarship, to be known as the Charles James Hunt Scholarship; and the remainder to the maintenance of Margaret Smith Hunt Scholarships in addition to those previously provided for.

Scholarship of the Class of 1894.—The Class of 1894 established a fund, the income of which is "to be used as a loan fund for the benefit of needy and worthy undergraduates in the Literary Department," on condition that the Board of Regents "shall require of such student or students as may receive the benefit of such fund a promise to repay to said Board the sum loaned on such terms as shall seem to said Board to be reasonable; it being the intention of the donors of said fund that the same shall be kept intact, as far as possible."

Scholarship of the Class of 1897.—The Class of 1897 has established a fund, a portion of which is available as a loan fund.

Scholarship of the Class of 1898.—The Class of 1898 has established a scholarship fund, the proceeds of which are not yet available.

Scholarship of the Law Class of 1899.—A small sum, contributed by members of the Law Class of 1899, is available as a loan fund.

Students' Lecture Association Fund.—Under the conditions of the gift made to the Board of Regents by the Students' Lecture Association, a small fund is available for loan to students in any department of the University. All loans are to be made through a committee consisting of the President of the University, the Dean of the Department of Literature, Science, and the Arts, the Dean of the Department of Medicine and Surgery, and the Dean of the Department of Law; and they are to be secured by notes payable one or more years after the borrower has completed his university course.

Newton Van Der Veer Loan Fund.—In January, 1900, the Regents accepted from Mrs. George Wagner a sum of money as the nucleus of a fund to be known, in memory of her father, as the Newton Van Der Veer Loan Fund; and to be used in loans "to needy students in such amounts and under such conditions as the executive head of the University may deem proper and wise."

Good Government Club Prize.—The income of the sum of five hundred dollars, presented to the Board of Regents by the Good Government Club of the University, is available, under the conditions of the gift, as a prize "for the best essay on some theme connected with the subject of good government." The professor of Political Economy, the Dean of the Department of Law, and the professor of History are a committee to choose themes for the essays and to award the prize.

The Todd Prizes.—Honorable A. M. Todd, of Kalamazoo, Michigan, offers to the students of this University five prizes of one hundred dollars each for the best essays on certain specified political, governmental, and sociological themes.

These prizes may be competed for by students enrolled in any department of the University, who have taken an academic degree here or at any other reputable college or university, and by undergraduate students of any department whose record indicates that they will probably graduate from their department in 1906 or 1907. No student is allowed to compete for more than one of the prizes. The essays should not be unduly expanded. Each writer should sign his essay with an assumed name or motto and should send in with it in a sealed envelope, his real name and his home address, placing the assumed name or motto on the outside of the envelope. He should deposit the essay with the President of the University on or before May first, 1907. The following persons constitute the Committee of Award: Professor ADAMS, Professor A. C. MCLAUGHLIN, Professor CHARLES H. COOLEY, Professor FAIRLIE and Professor BATES.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year. The Auditing Board has authority, under certain conditions, to remit the Special Examination Fee.

Matriculation Fee.—For Michigan students, *ten dollars;* for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *thirty dollars;* for all others, *forty dollars.* Students of this department who are pursuing a Combined Course, and, in consequence, are registered at the same time in one of the professional departments, are required to pay the annual fee due from students in such professional department.

Special Examination Fee.—A fee of *five dollars* is required of all persons who present themselves for examination for admission at a date later than that announced in the Calendar (see page 56).

Graduation Fee.—For all alike, *ten dollars.* A fee of *one dollar* is charged for the Teacher's Diploma.

For laboratory fees and other expenses, see pages 47 to 48.

Graduate School

A special Announcement giving additional information in regard to the Graduate School is issued in the spring of each year. Copies of this Announcement can be had by addressing James H. Wade, Secretary of the University. Inquiries about admission and courses of study, that are not answered in the Announcement, should be addressed to Professor Walter Dennison, Secretary of the Administrative Council of the Graduate School.

THE Graduate School is organized within the Department of Literature, Science, and the Arts. Its management is intrusted to an Administrative Council, consisting of the President of the University, the professors and junior professors in the Faculty of the department, and such other persons as may be elected to membership. The purpose of the school is to bring into greater prominence the numerous advanced courses of instruction that have been developed from the continual extension of the elective system; to secure a more efficient and systematic administration of this higher work; and to provide as far as possible for the separate instruction of graduate students.

ADMISSION AND REGISTRATION

All applicants for admission to the Graduate School must first report to the Dean of the Department of Literature, Science, and the Arts, and present their credentials. If the Dean finds that their collegiate training has been such that they may be excused from further undergraduate work, applicants must present themselves with their credentials to the Secretary of the Administrative Council for registration. They will receive special blanks to be filled out, subject to the approval of the professors under whom they wish to work, and they should consult with these professors at once, in order, if possible, to report to the Secretary of the Administrative Council for registration within one week after the opening of the semester. The office of the Secretary is in University Hall.

The privileges of the School are open to graduates of the Department of Literature, Science, and the Arts of this University, and to graduates of other universities and colleges, who satisfy the Administrative Council that they are qualified to pursue with profit the advanced courses of study offered in the School.

Graduates of universities and colleges where the undergraduate courses of study are not substantially equivalent to the course prescribed at this University may be admitted to the School; but ordinarily, if candidates for a higher degree, they are required to do an additional amount of undergraduate work, or to prolong their term of residence.

Graduates of this University, or of other approved institutions, who do not wish to become candidates for a degree, may be admitted and registered as special resident graduates.

Graduates of other institutions who are candidates for a bachelor's degree in the Department of Literature, Science, and the Arts, are not registered in the Graduate School.

COURSES OF INSTRUCTION

The courses of instruction offered in the Department of Literature, Science, and the Arts, and described on pages 62 to 128, are open to graduate students who satisfy the professors in charge that they are qualified to pursue the work to advantage. In all branches of study special provision is made for the instruction of graduate students.

The work of candidates for a higher degree is not confined strictly to the courses referred to above. Each student chooses three lines of study, a major study and two minor studies, which, after approval by the Council, he pursues under the immediate supervision of a special committee, consisting of the professors in charge of the studies chosen, the professor in charge of the major study being chairman. The nature of the work prescribed, and of the committee's oversight, varies in different cases according to the subjects chosen, the degree sought, and the previous attainment of the student. The work may consist in attendance upon certain specified courses, in reading to be done privately and reported upon, or in original research to be carried on more or less independently. The essential features are specialization of study, a final examination, and a thesis. A thesis is always required of a candidate for a doctor's degree and of a non-resident candidate for a master's degree; for a master's degree in residence the requirement may be waived at the discretion of the committee in charge of the student's work. The final examination for a degree is conducted under the direction of the committee, and the result of the examination is reported to the Faculty of the Department of Literature, Science, and the Arts.

REQUIREMENTS FOR GRADUATION

The degrees conferred on the completion of approved courses of study in the Graduate School are Master of Arts, Master of Science, Doctor of Philosophy, and Doctor of Science.

THE MASTERS' DEGREES

The masters' degrees are open to persons holding a bachelor's degree from this University or from any other reputable university or college. The degree of Master of Arts is the one usually conferred, though candidates who pursue studies along scientific lines may, at their option, receive the degree of Master of Science. A residence of at least one year at this University is required, except as stated below.

Residents.—A student who has received a bachelor's degree may be recommended for a master's degree after completing the prescribed term of residence, and passing an examination on the course of study approved by the Administrative Council. A thesis may, or may not, be included in the requirements for the degree, as the committee in charge of the student's work may determine.

A student properly qualified may be permitted to pursue at the same time studies for a master's degree and studies in any of the professional schools, on condition that the term of study and residence in the Graduate School be extended to cover at least two years.

Non-Residents.—A person holding a bachelor's degree from this University, who has already completed a portion of the term of residence prescribed for a master's degree, may be allowed to continue his studies for the degree without further residence at the University, on such conditions as the Administrative Council may determine in each case. *The privilege of study in absentia is, however, restricted to graduates of this University.*

THE DOCTORS' DEGREES

1. The doctors' degrees are open to all persons who have received a bachelor's degree; but no student will be accepted as a candidate for a doctor's degree who has not a knowledge of French and German sufficient for purposes of research. The degree of Doctor of Philosophy is the one usually conferred, though candidates who pursue studies along scientific lines may, at their option, receive the degree of Doctor of Science.

2. It is not intended that the doctor's degree shall be won merely by faithful and industrious work for a prescribed time in some assigned course of study, and no definite term of required residence can be specified. As a rule, three years of graduate study will be necessary, the last two semesters of which must be spent at this

University. The period of three years, however, may be shortened in the case of students who, as undergraduates, have pursued special studies in the direction of their proposed graduate work.

3. No student will be enrolled as a candidate for a doctor's degree until he has been in residence as a graduate student for at least one year. This rule may be waived in the case of those who come properly accredited from the graduate school of some other university, and of those who, as undergraduates in this University, have shown special proficiency in the line of their proposed graduate work.

4. A student wishing to become a candidate for a doctor's degree must make a formal application to be so enrolled at least two semesters prior to the time of presenting himself for examination.

5. A candidate for a doctor's degree must take a major study that is substantially coextensive with some one department of instruction in the University. He must also take two minor studies, one of which may be in the same department as the major, but involving a more thorough treatment of the same. Both minors must be cognate to the major, and the choice of studies is invariably subject to the approval of the Administrative Council.

6. The thesis is of great importance. It must exhibit creditable literary workmanship and a good command of the resources of expression; but it must depend for acceptance more upon its subject-matter than upon its formal or rhetorical qualities. It must be an original contribution to scholarship or scientific knowledge. The inquiry should be confined within narrow bounds. The treatment should be as concise as the nature of the matter permits, and show familiarity with the history of the problem treated, with the literature bearing upon it, and with the latest methods of research applicable to it. Every thesis should contain a clear introductory statement of what it is proposed to establish or to investigate, and likewise a final résumé of results. It should also be accompanied by an index of contents and a bibliography of the subject. It is expected that the preparation of an acceptable thesis will usually require the greater part of one academic year.

SPECIAL REGULATIONS RELATING TO THE HIGHER DEGREES

1. Applicants for an advanced degree are required to announce to the Council through the Secretary, as early as the tenth of October of each year, the particular branches of study to which they wish to give special attention. The supervision of their work will then be intrusted to the proper committee.

2. The subject of the thesis for a doctor's degree must be chosen, and must be approved by the committee concerned, as early as the first of November of the college year in which the applicant expects

to take the degree; and the subject of the thesis for a master's degree, when required, must be chosen and approved as early as the first of December.

3. The thesis must be completed and put into the hands of the chairman of the proper committee as early as the first of May of the year in which the applicant expects to take the degree.

4. The thesis must be prepared for close scrutiny with reference not only to its technical merits, but also to its merits as a specimen of literary workmanship. It must be preceded by an analytical table of contents and a carefully prepared account of the authorities used.

5. The thesis must be read and defended in public at such time as the Council may appoint, and, in case of a master's degree, a bound copy, either written or printed, must be deposited in the University Library.

6. Every candidate for the degree of Doctor of Philosophy or Doctor of Science, in case of the acceptance of his thesis, is required to have the thesis printed in full or in part as may be approved by the responsible committee. He is also required to deposit one hundred and fifty copies of the printed thesis in the University Library, these copies to be used for exchange with other universities; provided, however, that in cases where this requirement would work hardship, it may be waived on recommendation of the candidate's committee. To guarantee the printing of the thesis, every candidate for the doctor's degree is required to deposit with the Treasurer of the University, between the date of acceptance of his thesis and the time fixed for his examination, the sum of fifty dollars, which deposit will be returned to him in case of failure to pass his examination, or whenever he shall cause his thesis to be printed at his own expense, or shall have it published in a form and under auspices approved by the responsible committee. In case the thesis is not immediately printed, a typewritten copy must be placed in the University Library.

In the printing of the thesis at his own expense, the candidate will be expected to use good substantial paper and sightly topography. A page four inches by six, with outside margins of at least one inch, is recommended.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year.

Matriculation Fee.—For Michigan students, *ten dollars*; for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *thirty dollars;* for all others, *forty dollars.* The annual fee required of all graduates who are granted the privilege of pursuing studies for a master's degree *in absentia,* is *ten dollars.*

Graduation Fee.—For all alike, *ten dollars.* A fee of *one dollar* is charged for the Teacher's Diploma.

For laboratory fees and other expenses, see pages 47 to 48.

Department of Engineering

A special Announcement giving further information in regard to this department is published annually. For copies of this Announcement or for other information relating to the department, address Professor Mortimer E. Cooley, Dean of the Department of Engineering, Ann Arbor, Mich.

IN the legislative act under which the University was organized in 1837, provision was made for instruction in engineering. Work was begun in this line in 1853, and the first degrees were conferred in 1860. The engineering courses were included in the curriculum of the Department of Literature, Science, and the Arts, until the close of the collegiate year, 1894-1895. At that time the Department of Engineering was established by the Board of Regents as a separate department of the University.

Persons who wish to become professional engineers are offered thorough courses in civil, mechanical, electrical, chemical, and marine engineering, and in naval architecture. The work extends through four years. The aim of the department is to lay a foundation of sound theory, sufficiently broad and deep to enable its graduates to enter understandingly on the further investigation of the several specialties of the engineering profession; and at the same time to impart such a knowledge of the usual professional practice as shall make its students useful in any position to which they may be called. The technical branches are under the direct care of those who have had professional experience as well as a full scientific training.

The academic year extends from the Tuesday preceding the last Wednesday in September to the Thursday preceding the last Wednesday in June (September 25, 1906, to June 20, 1907). Between the student's third and fourth year of residence, attendance at a summer session of six weeks, beginning the Monday after Commencement (June 25 to August 3, 1906), is also required.

REQUIREMENTS FOR ADMISSION

[For admission to advanced standing, see page 148.]

[For admission of students not candidates for a degree, see page 152.]

Applicants for admission must be at least sixteen years of age, and must present satisfactory evidence of good moral character. They must bring credentials from their last instructor, or from the last institution with which they have been connected.

Unless admitted on diploma from an approved school (see page 151), any student who desires to become a candidate for a degree must pass examinations in the subjects described below. (See Engineering Bulletin 1905-1906, pages 15-16.)

Fifteen units are required for admission. A unit means the study of a subject four class periods a week for at least thirty-six weeks. Eleven and one-half units are prescribed. The other three and one-half units may be selected from those mentioned in the list designated below as Allowed. Only the number of units mentioned in connection with each subject will be accepted. In general, applicants will not be admitted with conditions in more than two units.

PRESCRIBED

English, 3 units. Grammar. Composition. Classics. History of English Literature.

Mathematics, 3½ units. Algebra, through quadratics. Geometry, Plane, Solid, Spherical. Trigonometry, Plane.

Physics, 1 unit.

Chemistry, 1 unit.

History, 1 unit. United States History and Civil Government.

Latin.
French. } One of these, 2 units.
German.

ALLOWED

English, 3 or 4 units.
Mathematics, 3½ units, as above.
Physics, 1 unit, as above.
Chemistry, 1 unit, as above.
Greek, 2 units.
Latin, 2 units, as above.
French, 2, 3, or 4 units.
German, 2, 3, or 4 units.
History, 1, 2, or 3 units.
Physiography, ½, or 1 unit.
Botany, 1 unit.
Zoology, 1 unit.
Biology, 1 unit.
Drawing, ½ unit.
Manual Training, ½ unit.

Under English is included Grammar, Composition, reading of English Classics, and History of English Literature. The History of English Literature may form part of the work of either the third or fourth year. Four units in English should always be presented whenever it is possible to do so.

Biology is defined as one-half year of Botany and one-half year of Zoology, hence it cannot be accepted from an applicant who offers at the same time either, or both, of those subjects.

SCOPE OF THE PREPARATORY WORK

In English Language, English Literature, French, German, Greek, Latin, Algebra, Geometry, Trigonometry, Physics, Chemistry, History, Physiography, Botany, Zoology, and Biology the amount and character of the work, which will be accepted, is identical with that described for the Department of Literature, Science, and the Arts on pages 50 to 56.

The half unit allowed in Drawing and the half unit allowed in Manual Training must each cover at least 200 periods of work in an approved school.

Drawing.—One-half unit. Allowed. This work should cover:

(*a*) Exercises giving evidence of skill in the use of instruments and knowledge of materials used. These should consist mainly of the accurate geometrical construction of the more important plane curves, with simple problems involving tangents and normals to the same.

(*b*) Graded exercises in the orthographic projection of simple geometrical forms and working drawings of some of the more elementary constructions in wood and metal, all fully dimensioned, and in which the conventional signs are properly used.

(*c*) Exercises in line shading, shade lining, and cross-hatching, together with a reasonable skill in lettering.

Manual Training in Shop Work.—One-half unit. Allowed. If offered in wood work, it should cover a series of graded exercises in framing joints, dovetailing, and simple work in joinery, and cabinet making. This should be supplemented by a series of exercises in wood turning.

If offered in metal work, it should cover a series of graded exercises at the anvil and forge, including drawing down, upsetting, swaging, fullering, and welding. This may be supplemented with exercises in tool dressing and tempering, and in manipulating metals with the chisel and file.

Before entering upon the examination each applicant must present his credentials to the Associate Dean of the department at his office in the old engineering building. Certificates and diplomas from schools other than those officially approved by the Universty do not excuse an applicant from the admission examinations.

Students who have satisfied the requirements for admission to the Department of Literature, Science, and the Arts (see pages 49 to 56) are admitted upon completing the requirements in plane trigonometry and in the sciences, if deficiencies in these subjects exist.

ADMISSION TO ADVANCED STANDING

1. Graduates of the Department of Literature, Science, and the Arts of this University, or of any other reputable college, are admitted without examination to advanced standing as candidates for a degree in engineering, and are excused from a considerable portion of the general requirements for graduation (see page 179).* The remaining requirements can be completed in two years, if, as an undergraduate, the student has taken the Mathematics prescribed for engineering students (see page 162) and Course 4 in Drawing (see page 169). A knowledge of differential and integral calculus, analytical mechanics, elementary drawing, and descriptive geometry is required for the advanced work.

2. Students who have completed at least one year's work in an approved college, and who bring explicit and official certificates describing their course of study and scholarship, and testifying to their good character, are admitted to advanced standing without examination, except such as may be

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*A student enrolled in the Department of Literature, Science, and the Arts, who desires to elect any of the work in the Department of Engineering not included in the Announcement of the former department, must obtain written permission from the Dean of that department, and have it approved by the Associate Dean of the Department of Engineering.

necessary to determine what credit they are to receive for work done in the college from which they have come.

3. Students who have not completed a year's college work in an approved college, but before entering this department of the University have pursued studies beyond those required for admission, may be admitted to advanced standing on passing the regular entrance examinations, and examinations in such undergraduate studies as they may ask to be credited with in advance.

Students entering at the beginning of the second semester (February 11, 1907), and expecting to join the first year's class, should be prepared in the mathematics of the first semester, in addition to the other requirements for admission.

Work in manual training and drawing, pursued in a high school, is recognized for advanced credit if considered by the instructors in the Department of Engineering equivalent to the work given in this department.

4. Rules Relating to Admission to Advanced Standing.

a. Any student, whether a candidate for a degree or not, who applies for advanced standing on the conditions stated in paragraphs 2 and 3 above, must present to the Associate Dean a statement showing the amount of work done in the subjects in which credit is asked. The applicant will then be given a blank form for presentation to the professors in charge of the several subjects named.

b. The application for advanced standing should be made when the student enters the department. Credits must be secured before the first of November, or (if the student be matriculated at the beginning of the second semester) before the fifteenth of March. No credit will be given for advanced standing after these dates.

c. An account once closed cannot be reopened without special permission of the Faculty.

TIME OF EXAMINATION

Examinations for admission to the Department of Engineering will be held on Wednesday, Thursday, Friday, and Saturday, September 19, 20, 21, and 22, 1906; and on Friday and Saturday, February 8 and 9, 1907. Applicants presenting themselves too late for the scheduled examinations are required to pay an examination fee of *five dollars*.

Applicants should present their credentials to the Associate

Dean of the department at least as early as the day preceding the beginning of the examination (Tuesday, September 18, 1906, and Thursday, February 7, 1907).

The examinations in the several subjects will be in writing, and will be held in Tappan Hall in accordance with the schedule given below:

SCHEDULE OF EXAMINATIONS FOR ADMISSION SEPTEMBER, 1906.

	Wednesday, Sept. 19.	Thursday, Sept. 20.	Friday, Sept. 21.	Saturday, Sept. 22.	
Botany	10 A. M.	......	......	......	Room 8
History	2 P. M.	......	......	......	Room 8
Geometry	......	8 A. M.	......	......	Room 8
French	......	10 A. M.	......	......	Room 12
Latin	......	2 P. M.	2 P. M.	......	Room 8
German	......	2 P. M.	2 P. M.	......	Room 12
Chemistry	......	4 P. M.	......	......	Room 8
Algebra	......	......	8 A. M.	......	Room 8
Physics	......	......	......	8 A. M.	Room 8
English Composition and Literature	......	......	......	10 A. M.	Room 8
Physical Geography	......	......	......	2 P. M.	Room 8
Astronomy	......	......	......	2 P. M.	Room 12
Trigonometry	......	......	......	4 P. M.	Room 8

SCHEDULE OF EXAMINATIONS FOR ADMISSION FEBRUARY, 1907.

	Friday, Feb. 8.	Saturday, Feb. 9.	
Algebra	8 A. M.	......	Room 8
Geometry	8 A. M.	......	Room 8
Trigonometry	8 A. M.	......	Room 8
Physical Geography and Astronomy	11 A. M.	......	Room 8
German	2 P. M.	......	Room 8
Botany	3 P. M.	......	Room 8
History	4 P. M.	......	Room 8
Physics	......	8 A. M.	Room 8
English Composition and Literature.	......	10 A. M.	Room 8
Latin	......	2 P. M.	Room 8
French	......	3 P. M.	Room 12
Chemistry	......	4 P. M.	Room 8

CONDITIONAL ADMISSION

An applicant who fails in some part of the examination may, at the discretion of the Faculty, be admitted conditionally; but any condition thus incurred must be removed at one of the next two regular examinations for admission, and no student who has an admission condition outstanding at the beginning of his second year of residence is allowed to enter his classes until such condition is removed.

ADMISSION ON DIPLOMA

[For further information relating to the rules governing adminission on diploma, see page 58.]

Students presenting graduation certificates from any of the schools officially approved by the Faculty of the Department of Literature, Science, and the Arts, signed by the superintendent or the principal of the school, are admitted without examination to the Department of Engineering. But if such certificate, though it might admit a student to the Department of Literature, Science, and the Arts, shows any deficiencies in the requirements for admission to the Department of Engineering, such deficiencies must be made up, or substitutions secured at the time of entrance. Extra studies may be credited on advanced standing, if the subjects are taught in either of the two departments.

The certificate must state that the student has sustained his examinations in all the studies prescribed for admission to the Department of Engineering, or has satisfied the requirements for admission to the Department of Literature, Science, and the Arts (see pages 49 to 56), and is recommended for admission to the University. It must be presented to the Associate Dean of the department within a year and three months after graduation from the school, and the student must then begin his work.

Diplomas and sixty-count academic certificates issued by the Regents of the University of the State of New York are accepted by the Department of Engineering in place of examinations in all the subjects required for entrance which are covered by such credentials, provided that not more than fifteen months have elapsed since grad-

uation. A statement from the teacher, giving in detail the work done and the proficiency attained in these subjects, must be submitted by the holder of the credentials.

No other credentials, such as pass-cards and other certificates issued by the Regents, are accepted, unless they are presented by the holder of a Regents' diploma or a sixty-count academic certificate.

ADMISSION OF STUDENTS NOT CANDIDATES FOR A DEGREE

The term Special Student is applied to a person pursuing work in this department who is not a candidate for a degree.

No one under twenty-one years of age will be admitted as a special student in this department.

Practicing engineers, teachers, and other persons of mature years and recognized ability, may be given the courtesy of pursuing work as special students in this department under the following conditions: They shall be recommended by the heads of departments of instruction in which they wish to study, and be accepted by vote of the Faculty. They shall pay the usual fees of regular students.

The work of special students shall be under the direction of a committee of the Faculty.

A special student may become a candidate for a degree by vote of the Faculty, upon recommendation of the committee in charge of his work.

A student who is a candidate for a degree is not allowed to become a special student without permission of the Faculty previously obtained.

FACILITIES FOR INSTRUCTION

The collections for illustrating the instruction given comprise models, drawings, photographs, litographs, and blue-prints representing trusses, arches, and details of construction in iron, wood, and stone; sections of valves, pumps, and injectors; indicators and gauges; working models in various lines and full-sized machines; working drawings of bridges; engines, dynamos, etc. These collections are receiving additions from year to year, by gift and purchase, and are invaluable to the student.

Tests of engines and boilers, and of machinery in general, are made on request, and the profit of such work is devoted to extending the facilities of the engineering laboratory. The data of all experiments and tests made are kept in the laboratory records. Tests of materials are also conducted for private parties, and reported upon when desired.

All the laboratory work is on a practical basis, and is done, as nearly as possible, as it would be done in any well-arranged manufacturing establishment. The latest and best books on professional subjects are added yearly to the library, where they are accessible to all; and frequent references are made to them in the class room as the various subjects are brought forward.

PHYSICAL LABORATORY

For a description of the physical laboratory, see page 35.

CHEMICAL LABORATORY

For a description of the chemical laboratory, see page 35.

ENGINEERING SHOPS

The engineering shops are in a group of connected buildings, and occupy about 30,000 square feet of floor space.

The *Carpenter and Pattern Shop,* 40 by 127 feet, is equipped with the tools and machinery usually found in a first-class establishment. One end of the shop contains work-benches and tools needed for hand work in carpentry. The other end contains benches and tools specially adapted for pattern-making. The central portion is occupied by a good variety of wood-working machinery. A lumber and pattern loft, 40 by 120 feet, contains blue-printing apparatus, materials, and a large collection of patterns made by students.

The *Foundry,* 30 by 120 feet, is equipped with cupola and brass furnaces, core-ovens, elevator, crane, blowers, and a supply of small tools and flasks suitable for the kinds of work done. From one to two tons of castings are made weekly.

The *Forge Room,* 40 by 127 feet, contains twenty-eight modern down-draft forges, together with anvils and tools for doing all kinds of work in hand forging, and machinery for forging by mechanical processes and for working structural shapes in iron and steel. Blast is supplied to the fires by large power-driven fans, and the gases are removed and discharged into a brick stack by an exhaust fan electrically driven. which thoroughly ventilates and purifies the atmosphere of the room.

The *Machine Shop,* 40 by 127 feet, contains an assortment of engine-lathes, speed-lathes, turret-lathes, planers, shapers, milling machines, grinding machines, and various tools for working in metal. A well equipped tool-room is connected with this shop.

In connection with each of these four shops there is a lecture and quiz room, in which are collected models, drawings, charts, diagrams, and books, which are used in the courses of instruction.

The *Instrument Shop*, 20 by 32 feet, contains a number of small lathes and drills, and the tools needed in constructing scientific and other apparatus.

The *Drawing Room*, 32 by 54 feet, is fitted with improved drawing-tables, lockers, and drawing cases for use with classes in workshop drawing and machine design.

The central portion of the building, 32 by 54 feet, contains in the basement a well-ventilated lavatory and locker-room, and on the first floor an engine room with a 10 x 20 Reynolds-Corliss engine, a store-room, and the superintendent's office.

A good part of the equipment has been designed and built in the shops. New machinery is added from time to time by construction or purchase. The entire equipment is used in instructing engineering and other students in the use of tools for working in wood and in metals, and in modern workshop methods. Opportunity is afforded to become familiar with the more common materials and forms of construction used in engineering structures, buildings, and machinery. In all work an effort is made to follow the practice of the best shops.

MECHANICAL ENGINEERING LABORATORY

This laboratory is devoted to experimental work in connection with the testing of engines, boilers, pumps, indicators, belting, gearing, lubricants, and strength of materials, and to such original work as can be undertaken with advantage. The work also extends to the testing of engines, boilers, and water-wheels of neighboring mills and electric plants. The Knowles and the Gordon pumping engines at the City Water Works have been fitted up by the company with special reference to the convenience of engineering students in making tests. The equipment contains, among other things, a 100,000-pound Olsen testing machine; a 2,000-pound cement testing machine; Thurston and Ashcroft oil testing machines; a Stirling boiler for high pressure; a high speed automatic engine; a Corliss engine; a Westinghouse compound engine; a De Laval steam turbine; a Fairbanks-Morse gas engine; a Meitz & Weiss kerosene engine; a Blake air compressor; a Rider hot-air engine; Wheeler & Wainwright surface condensers; an Alden absorption dynamometer; a Giddings traction recording dynamometer; an Emerson power scale; several other forms of dynamometers; a large electrically driven chronograph, built in the laboratory; a 36-foot open mercury column; special apparatus for testing pressure and vacuum-gauge and indicator springs; gauges; indicators; thermometers; pyrometers; tachometers; standard weights; steam pumps and injectors; rotary and centrifugal pumps; water meters; water motors, including a special universal water motor, built in the laboratory, together with pressure tanks and pumps for testing motors; hydraulic rams; water-wheels; air pumps; blowers; apparatus for making tests on radiators and pipe coverings; apparatus for furnace-gas and fuel analysis; and other apparatus having special reference to work of investigation.

Greatly increased facilities are provided in the new engineering building, recently completed.

The steam laboratories occupy a space 60 feet square on the first and second floors of the north wing, with a basement under a part of the ground floor. Adjoining is a boiler house, 34 by 34 feet, having a gallery eight feet wide. It is planned to install in this laboratory as new equipment a multiple expansion engine, a gas engine plant of 100 horse-power, including a gas producer, an Armington-Sims simple engine, a compound steam pump of large capacity, a refrigerating plant, and a high pressure air compressor. The boiler room is provided with a Stirling boiler, a Buffalo Forge Co's. direct steam driven induced draft fan, feed water heaters, econometer, weighing tanks, and all necessary accessories for boiler testing.

On the west side of the ground floor of the east wing a space 22 by 26 feet has been set apart for testing the physical properties of materials and for a cement-testing laboratory.

On the third floor of the north wing the 100-inch electrically driven ventilating fan for this wing has been installed especially for the investigation of fan heating problems. It is provided with a Reeves Transmission by means of which the speed can be varied from 100 to 400 revolutions per minute. The heaters are so arranged that any number of rows of heating pipes up to thirty-two can be had on either the suction or the blast side of the fan. This fan is also provided with a discharge pipe leading into the mould loft by means of which experiments can be made to determine air pressures and resistances on bodies of different forms at velocities varying from 15 to 100 feet per second. This apparatus, while available for heating purposes, was designed with especial reference to experimental work. It was presented to the University by the Buffalo Forge Co., Buffalo, N. Y. The two 140-inch electrically driven ventilating fans in the south and east wings, installed by the Buffalo Forge Co., are also adapted for experimental work.

THE HYDRAULIC LABORATORY

This laboratory occupies a space 40 by 60 feet on the first and second floors of the north wing, adjoining the steam laboratories. A canal four feet wide, fourteen feet six inches deep, and forty feet long extends across the middle of the laboratory. Water enters this canal from the naval tank and is returned to the tank by a centrifugal pump in a well at the far end of the canal. This canal is provided with bulkheads, screens, and weirs, and is arranged for testing the flow of water over weirs and through nozzles up to a capacity of ten cubic feet per second. The bulkhead between the naval tank and the canal is arranged for weirs and nozzles so that tests may be made for flow from a still water basin as well as in a running stream. The naval tank itself is arranged for bulkheads dividing it into three basins, each one hundred feet long. By means of a sluice in the bottom of the tank these basins can be connected to the hydraulic canal and the centrifugal pump, so that water can be pumped from one of the basins and delivered into either of the others. The laboratory will also have two weighing tanks for calibrating purposes, each holding six hundred cubic feet. A 36-inch pressure tank, designed for 250 pounds pressure, extends through two stories. This affords means for nozzle and motor experiments under high heads. An open tank eight feet wide, sixteen feet long, and five feet deep rests on a platform near the ceiling of the second floor. The centrifugal pump supplies this tank, which serves as a forebay for water wheel tests under heads up to about twenty-five feet.

ELECTRICAL ENGINEERING LABORATORY

A new laboratory, exclusively for electrical engineering, occupies the basement of the south wing of the new engineering building. The laboratory has a total area of about 5,000 square feet. It includes two large rooms for dynamo-electric machinery, one for direct-current apparatus, 54 by 29 feet, the other for alternating-current apparatus, 54 by 27 feet. There is also one large room for telegraph and telephone engineering, 35 by 19 feet, three rooms, each about 20 feet square, for research laboratories, and smaller rooms for storage battery, calibration of instruments, photometry, photography, repair shop, etc., besides the office and private laboratory of the professor in charge. On the floor above are two large recitation rooms and a drawing room for electrical engineering.

In the direct current laboratory are two 10-light series dynamos for arc lights, and four constant potential shunt or compound generators, each driven by a separate motor, also two street railway motors with a brake for load. Two of the constant potential generators are a matched pair of 30 K. W. Edison machines, available for testing by the "stray power" method.

In the alternating current laboratory are one single and two polyphase generators, also a two and three phase rotary converter, which may be run as a double current generator, and two alternating current motors. The generators are driven by separate direct current motors.

The equipment of the dynamo laboratories includes among other apparatus arc lamps, banks of incandescent lamps, ammeters, voltmeters, wattmeters, galvanometers, electro-dynamometers, resistances, rheostats, transformers, and a large storage battery. The transformers include a set for conversion from two-phase to three-phase transmission and the reverse, and a constant current transformer. A well equipped photometric room adjoins the dynamo room.

The laboratory for telegraphy and telephony is equipped with apparatus to illustrate commercial systems, including apparatus for duplex and quadruplex telegraphy, and various systems of telephone exchanges.

During the summer of 1905 several machines of the latest types were added to the present dynamos. Considerable auxiliary apparatus was also purchased. This increase in equipment, together with the enlarged laboratory space, has improved the efficiency of all the courses offered by the department.

The University lighting plant, consisting of one 200 K. W. and two 75 K. W. Thompson-Ryan generators, is available for instruction in the department. The 200 K. W. machine is directly connected to a compound engine run at a speed of 180 revolutions a minute. The two 75 K. W. machines are connected by the Arnold system to two 15 by 14 engines and run at a speed of 250 revolutions a minute. The system is a 220-volt one throughout, with both incandescent and arc lamps (two in a series) on the same circuits. All the feeders and mains are underground, except those running from the central plant to the University Hospital, which is supplied with current from the central plant on the campus by means of heavy cables and a "booster." The Arnold system permits of connecting either ot the pair of dynamos to either engine, or of disconnecting either so that it may be tested for efficiency by purely electrical methods. A large number of motors, varying in capacity from 1 to 50 H. P., are in service and are available for testing purposes.

MARINE ENGINEERING LABORATORY

In the basement of the new engineering building the east wing is devoted to the experimental tank. This tank is 300 feet long, 22 feet wide, with a depth of water of 10 feet. At the south end is a model room and work shop for the purpose of making models of vessels. The tank is spanned by a traveling truck which is driven by a motor and can be run at any desired speed. Upon this truck are mounted the dynamometers for measuring the resistance of the models of various forms at different speeds.

Experiments upon ships' forms will be conducted in a systematic manner and the results of such experiments will give the student an intelligent idea as to the capabilities of any given form. The action of bilge keels upon the rolling of vessels, and upon the speed, will also be subject to investigation. It is proposed in the near future to install special apparatus for the investigation of the action and properties of screw propellers.

MOULD LOFT

The mould loft is situated on the top floor of the north wing of the engineering building, occupying a floor space of 3,600 square feet. The loft is fitted with the usual equipment, such as battens, bevel boards, benches for making moulds, etc. Students are also allowed the use of the mould loft for the construction of small vessels. For this purpose steam boxes and bending slabs are provided.

NEW ENGINEERING BUILDING

The new engineering building occupies the southwest corner of the campus. The central pavilion, 57 feet wide on the front, faces the corner, its archway spanning the main diagonal walk. One wing, 134 feet long by 64 feet wide, faces South University Avenue; another wing, 224 feet long by 61 feet wide, faces East University Avenue, with a third wing, 61 feet square, extending west from the north end of the east wing, and with an extension, 25 feet wide and 100 feet long, to the north to accommodate the naval tank of the marine laboratory.

The outer walls are over 1,100 feet around. The ground floor contains a floor-space of 25,800 square feet, the second floor 23,300, the third floor, 23,200, and the fourth floor, 20,300, the total being 92,600 square feet.

The building contains the electrical laboratories, the physical testing laboratories, the mechanical and steam laboratories, the hydraulic laboratories, the marine laboratory, and the mould loft. Descriptions of these may be found in the preceding pages.

OTHER LABORATORIES, LIBRARIES, AND MUSEUMS

For a description of other University laboratories, libraries, and collections for the study of art, archæology, ethnology, mineralogy, geology, palæontology, zoology, etc., and for general information concerning the University, see pages 28 to 48.

ASTRONOMICAL OBSERVATORY

For a description of the astronomical observatory, see page 29.

THE WATERMAN GYMNASIUM

For a description of the gymnasium, see page 41.

VISITS OF INSPECTION

As often as practicable, visits of inspection are paid to the neighboring manufacturing establishments, to electric light and electric power stations, and to points of engineering interest, for the purpose of acquiring a knowledge of the methods employed in building, in the construction of bridges, machinery, and ships, and the best practice in electrical manufacturing and engineering on a large scale.

THE ENGINEERING SOCIETY

Several organizations of students are maintained, aside from the usual literary societies, for the reading of papers and holding discussions in various scientific lines. The Engineering Society, composed of and officered by students of this department, holds meetings, at which papers of technical interest are read, and reports made upon observations and experiments. A reading room is maintained by the society, accessible to all students of the department. Several engineers of prominence have spoken before the society in past years. A semi-annual, called the Michigan Technic, containing papers read before the society, abstracts of theses, contributed articles from alumni, and other matters of professional interest, is published by the students.

COURSES OF INSTRUCTION

The courses of instruction are subject to change from time to time; those announced for the year 1905-1906 and required for graduation, as stated on pages 178 to 181, together with some advanced, elective, and technical courses, are described on the following pages.

The courses given in the Department of Literature, Science, and the Arts, and described on pages 63 to 128, are (with the exception of the courses in French and in German, for which special permission is required) all open as electives to engineering students who are qualified to pursue them with advantage.

A student enrolled in the Department of Literature, Science, and the Arts, who desires to elect any of the work in the Department of Engineering, not included in the courses offered in the former department, must obtain written permission from the Dean of that department, have it approved by the Associate Dean of the Department of Engineering, and attach it to his election slip.

RULES RELATING TO REMOVAL OF CONDITIONS

For the rule governing the removal of conditions, see Engineering Announcement.

COURSES OFFERED IN 1905–1906

The courses offered for the year 1905-1906 are described below. The amount of credit toward graduation assigned to each course is indicated by the expressions *one hour, two hours,* etc.

ENGLISH

The courses in English are primarily composition courses designed to develop in the student correctness, fluency, and constructive power in the expression of his ideas.

FIRST SEMESTER

1. Paragraph and Theme Writing. Eight sections. *Four hours.* Mr. Bohn, Mr. Tarbox, and Mr. Breitenbach.

1*a*. Theme Writing. Two sections. *Two hours.* Mr. Breitenbach.

SECOND SEMESTER

1. Paragraph and Theme Writing. Eight sections. *Four hours.* Mr. Bohn, Mr. Tarbox, and Mr. Breitenbach.

2. Technical Journalism. *Two hours.* Mr. Breitenbach.
Open to those who receive special permission.

3. Scientific Literature. Readings, discussions, and essays. Among the authors to be studied are Spencer, Darwin, Huxley, Tyndal, Wallace, Faraday, and Clifford. *Two hours.* Mr. Tarbox.

GERMAN

The aim of the instruction in German is to help the student to a reading and speaking knowledge of the language. Special attention is paid to scientific literature. Elective courses are offered for the accommodation and benefit of students who have the time and inclination to carry their language work beyond the limits of the required courses.

BOTH SEMESTERS

1. Elementary Course. Grammar and reading, with constant practice in writing and speaking German. Three sections. *Four hours.* Assistant Professor Wait, Mr. Dubee, and Mr. Menger.

2. Elementary Course continued. Grammar and reading, with constant practice in writing and speaking German. Four sections. *Four hours.* Assistant Professor Wait, Mr. Dubee, and Mr. Menger.

3. Reading of German Scientific Literature. Nine sections. *Four hours.* Assistant Professor Wait, Mr. Dubee, and Mr. Menger.

4. Reading of German Scientific Literature continued. Seven sections. *Four hours.* Assistant Professor Wait, Mr. Dubee, and Mr. Menger.
In Courses 3 and 4 students of special aptitude and proficiency are given opportunity and encouraged to do extra work.

5. Advanced Course in German Scientific Literature. *Three hours.* Assistant Professor Wait.

FRENCH

The aim of the instruction in French is to help the student to a reading and speaking knowledge of the language. Special attention is paid to scientific literature. Elective courses are offered for the accommodation and benefit of students who have the time and inclination to carry their language work beyond the limits of the required courses.

BOTH SEMESTERS.

1. Elementary Course. Grammar and reading, with constant practice in writing and speaking French. Five sections. *Four hours.* Mr. Bird, Mr. Adams, and Mr. Kenyon.
2. Elementary Course continued. Five sections. *Four hours.* Mr. Bird, Mr. Adams, and Mr. Kenyon.
3. Reading of French Scientific Literature. Six sections. *Four hours.* Mr. Bird, Mr. Adams, and Mr. Kenyon.
4. Reading of French Scientific Literature continued. Two sections. *Four hours.* In Courses 3 and 4 students of special aptitude and proficiency are given opportunity and encouraged to do extra work. Mr. Bird, and Mr. Kenyon.
5. Advanced Course in French Scientific Literature. *Three hours.* (Elective.) Mr. Bird.

SPANISH

The courses in Spanish are almost entirely conversational, and are offered chiefly to meet the demands of students looking forward to a professional career in countries where Spanish is the prevailing medium of communication.

Opportunity for advanced work in Spanish is offered to students who desire to make themselves specially proficient in this language.

BOTH SEMESTERS.

1. Elementary Course. Grammar and reading, with constant practice in writing and speaking Spanish. One section. *Four hours.* Mr. Bird.
2. Elementary Course continued. Grammar and reading, with constant practice in writing and speaking Spanish. Two sections. *Four hours.* Mr. Bird and Mr. Kenyon.
3. Reading, Conversation, and Business Correspondence. *Four hours.* Mr. E. L. Adams.

MATHEMATICS

It is the object of this course not only to impart to the student the mathematical knowledge requisite for the study of the various branches of engineering, but to train his mind in the methods of precise reasoning and accustom him to the proper application of general principles to particular cases.

Students desiring to pursue their mathematical studies further will find a large list of electives among the courses in pure and applied mathematics offered in the Department of Literature, Science, and the Arts.

FIRST SEMESTER

1. Algebra and Analytic Geometry (I). Sixteen sections. *Four hours.* Dr. PIERCE, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Dr. BRADSHAW, Mr. LOVE, and Mr. GARRETSON.

1*a*. Plane Trigonometry. Six sections. *Two hours.* Dr. PIERCE, Dr. RUNNING, Mr. MARSHALL, Dr. FORD, and Mr. GARRETSON.

2. Analytic Geometry. *Four hours.* Mr. LOVE.

3. Calculus. Twelve sections. *Five hours.* Professors ZIWET and MARKLEY, Assistant Professor GLOVER, Dr. PIERCE, Dr. RUNNING, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Mr. MARSHALL, and Dr. FORD.

5. Calculus and Mechanics (II). Nine sections. *Three hours.* Professor ZIWET, Assistant Professor GLOVER, Dr. RUNNING, Dr. FIELD, Mr. MARSHALL, and Dr. FORD.

17. Theory of the Potential. *Three hours.* Professor ZIWET. (Elective.)

29. Harmonic Analysis I. *Two hours.* Professor ZIWET. (Elective.)

SECOND SEMESTER

1. Algebra and Analytic Geometry (I). *Four hours.* Mr. LOVE.

1*a*. Plane Trigonometry. *Two hours.* Dr. BRADSHAW.

2. Analytic Geometry (II). Sixteen sections. *Four hours.* Dr. PIERCE, Dr. RUNNING, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Dr. BRADSHAW, Dr. FORD, Mr. LOVE, and Mr. GARRETSON.

2*a*. Spherical Trigonometry. *Two hours.* Mr. ESCOTT.

3. Calculus. *Five hours.* Dr. BRADSHAW.

4. Calculus and Mechanics (I). Twelve sections. *Five hours.* Professors ZIWET and MARKLEY, Assistant Professor GLOVER, Dr. PIERCE, Dr. RUNNING, Dr. KARPINSKI, Dr. FIELD, Mr. ESCOTT, Mr. MARSHALL, and Dr. FORD.

6. Calculus and Mechanics (III). Eight sections. *Two hours.* Professor ZIWET, Assistant Professor GLOVER, Dr. RUNNING, Dr. FIELD, Mr. MARSHALL, and Dr. FORD.

16. Advanced Mechanics. *Three hours.* Professor ZIWET. (Elective).

30. Harmonic Analysis II. *Two hours.* Professor ZIWET. (Elective).

PHYSICS

The instruction in general physics covers a thorough course with the use of trigonometry and extends through an entire year. The first semester is devoted to mechanics, sound, and light; the second to heat, electricity, and magnetism. The subjects are amply illustrated with appropriate experiments accompanying the lectures. Two additional courses in the laboratory introduce the student to quantitative methods in the study of physics, and prepare him for the more difficult and exacting work in electrical measurements.

FIRST SEMESTER

1. Mechanics, Sound, and Light. Lectures and recitations. Ten sections. *Five hours.* Professor CARHART, Dr. RANDALL, Mr. MOREHOUSE, Mr. MELLENCAMP, Mr. BURROWS, and Mr. ANDREWS.

For Course 1 a knowledge of plane trigonometry is indispensable.

3*b*. Physical Laboratory Work for Beginners. *Two hours.* Mr. MOREHOUSE and Mr. MELLENCAMP.

Course 3*b* must be preceded or accompanied by Course 1.

3*c*. Laboratory Work in Mechanical and Electrical Measurements. Four sections. *Three hours.* Mr. HENDERSON, Mr. MELLENCAMP, and Mr. BURROWS.

Course 3*c* must be preceded by Course 2. It is designed for students who wish to prepare for the study of dynamo-electric machinery.

5. Electrical Measurements. Lectures, recitations, and laboratory work. Three sections. *Four hours.* Dr. A. W. SMITH and Mr. MOREHOUSE.

7. Intermediate Course in Electricity and Magnetism. *Two hours.* Professor CARHART.

Course 7 must be preceded by Course 2. A knowledge of calculus is required.

8. Heat. Laboratory work. *Two hours.* Dr. RANDALL.

Course 8 must be preceded by Course 2.

9. Theory of Heat. *Two hours.* Dr. RANDALL.

10. Mathematical Electricity and Magnetism. *Three hours.* Professor PATTERSON.

Course 10 must be preceded by Course 2.

SECOND SEMESTER

2. Heat, Electricity, and Magnetism. Lectures and recitations. Eleven sections. *Five hours.* Professor CARHART, Dr. RANDALL, Mr. MOREHOUSE, and Mr. HENDERSON.

Course 2 must be preceded by Course 1 and by Course 1 in Chemistry.

3*b* Physical Laboratory Work for Beginners. Four sections. *Two hours.* Mr. MELLENCAMP and Mr. ANDREWS.

3*c*. Laboratory Work in Mechanical and Electrical Measurements. *Three hours.* Dr. RANDALL and Mr. HENDERSON.

Course 3*c* must be preceded by Course 2. It is designed for students who wish to prepare for the study of dynamo-electric machinery.

4. Primary and Storage Batteries. Lectures, recitations, and laboratory work. Three sections. *Two hours.* Mr. MOREHOUSE.
   Course 4 must be preceded by Courses 1, 2, and 3, and by Chemistry 2.

12. Electrical Measurements. Continuation of Course 5. Recitations and laboratory work. Two sections. *Three hours.* Dr. A. W. SMITH.

20. Mathematical Electricity and Magnetism. *Two hours.* (Elective). Professor PATTERSON.
   Course 20 must be preceded by Course 10.

CHEMISTRY

Students admitted with a deficiency in entrance chemistry must take Courses 1, 1*a*, 2, and 2*a* in the Literary Department to fulfil entrance and graduation requirements.

Other courses in chemistry are given in the Department of Literature, Science, and the Arts.

FIRST SEMESTER

1. Elementary Inorganic Chemistry. Experimental lectures and recitations. Three sections. *Two hours.* (For entrance see above.) Dr. HALE.

1*a*. Laboratory Course accompanying Course 1. Four sections. *Two hours.* Mr. SMEATON, Dr. LIND, Dr. BALCOM, and Mr. WURSTER.

2. Principles in Inorganic Chemistry. Lectures and recitations. *Four hours.* Mr. SMEATON.
   Open to those who have passed the entrance requirements in chemistry.

3. Qualitative Analysis. Recitations and laboratory work. Two sections. *Seven hours.* Professor JOHNSON and Mr. H. H. WILLARD.
   Open to those who have completed Course 2 or an equivalent.

3*a*. Qualitative Analysis. Recitations and laboratory work. *Four hours.* Professor JOHNSON.
   Open to those who have completed Course 2.

3*b*. Qualitative Analysis. Continuation of Course 3*a*. *Four hours.* Mr. H. H. WILLARD.

5. Quantitative Analysis. Beginning course. Recitations and laboratory work. *Five hours.* Professor CAMPBELL.
   Open to those who have completed Course 3.

7. Organic Chemistry. Lectures and library studies. *Five hours.* Professor GOMBERG.
   Open to those who have completed Course 3.

28. Advanced Quantitative Analysis. Laboratory work. *Five hours.* Professor CAMPBELL and Mr. ZIMMERSCHIED.
   Open to those who have completed Course 5.

29. Iron and Steel Analysis. Laboratory work. *Five hours.* Professor Campbell.

Open to those who have taken Course 28 and who receive special permission.

31. Independent Work in Mineral Analysis. Laboratory work. *Five hours.* Professor Campbell.

Open to those who have completed Course 28.

32. Technical Examination of Gold and Silver Ores, including the Fire Assay. Laboratory work with lectures and reading. Two sections. *Two hours.* Assistant Professor White.

Open to those who have completed Course 28. Course 2 in Mineralogy is recommended.

33. Chemical Technology. A study of chemical manipulations and reactions on a manufacturing scale. Lectures, recitations, and assigned reading. *Five hours.* Assistant Professor White.

Open to those who have completed Course 3.

34. Chemical Reading. *One hour.* Professor Campbell.

Course 34 requires special permission.

35. Technical Gas Analysis, including Calorimetry and Photometry. Laboratory work. Two sections. *Two hours.* Assistant Professor White.

Open to those who have completed Course 5.

39. Chemical Technology. Laboratory work. Subjects may be chosen on consultation. *Five hours.* Professors Campbell and Gomberg, Assistant Professor White, Dr. Dunlap, and Mr. Smeaton.

Course 39 must be preceded by Courses 28 and 33, with Courses 7 and 38 in addition, if the subject chosen is in organic technology.

42. Organic Synthesis. Laboratory work. *Three, four,* or *five hours.* Professor Gomberg.

Course 42 must be preceded by Course 5 and preceded or accompanied by Course 7.

SECOND SEMESTER

2. Principles of Inorganic Chemistry. Lectures and recitations. Six quiz sections. *Four hours.* Mr. Smeaton.

Open to those who have passed the entrance requirements in chemistry.

2 and *2a* (Literary). Elementary Inorganic Chemistry. Three sections. Dr. Hale.

3. Qualitative Analysis. Recitations and laboratory work. *Seven hours.* Professor Johnson and Mr. H. H. Willard.

Open to those who have completed Course 2 or an equivalent.

3*a*. Qualitative Analysis. Recitations and laboratory work. Two sections. *Four hours.* Professor Johnson and Mr. H. H. Willard.

Open to those who have completed Course 2.

3*b*. Qualitative Analysis. Continuation of Course 3*a*. ***Four hours.*** Professor JOHNSON.

5. Quantitative Analysis. Beginning course. Recitations and laboratory work. *Five hours.* Professor CAMPBELL.

Open to those who have completed Course 3.

10. Chemistry of Carbon Compounds. *Four hours.* Professor GOMBERG.

27. Chemistry of Rare Elements. *Four hours.* Mr. H. H. WILLARD.

28. Advanced Quantitative Analysis. Laboratory work. *Five hours.* Professor CAMPBELL.

Open to those who have completed Course 5.

29. Iron and Steel Analysis. Laboratory work. *Five hours.* Professor CAMPBELL.

Open to those who have taken Course 28 and who receive special permission.

31. Independent Work in Mineral Analysis. Laboratory work. *Five hours.* Professor CAMPBELL.

Open to those who have completed Course 28.

34. Chemical Reading. *One hour.* Professor CAMPBELL.

Course 34 requires special permission.

35. Technical Gas Analysis, including Calorimetry and Photometry. Laboratory work. *Two hours.* Assistant Professor WHITE.

Open to those who have completed Course 5.

38. Organic Technology. The industrial chemistry of organic compounds. Lectures, recitations, and assigned reading. *Five hours.* Assistant Professor WHITE.

Open to those who have completed Courses 7 and 33.

39. Chemical Technology. See first semester. *Credit arranged.* Professors CAMPBELL and GOMBERG, Assistant Professor WHITE, Dr. DUNLAP, and Mr. SMEATON.

42. Organic Synthesis. Laboratory work. *Three, four, or five hours.* Professor GOMBERG.

Course 42 must be preceded by Course 5 and preceded or accompanied by Course 7.

METALLURGY

Mechanical engineering students are required to take metallurgy in the summer session between the third and fourth years.

FIRST SEMESTER

1. Fuel and Refractory Material; Iron and Steel. *Two hours.* Professor CAMPBELL and Mr. ZIMMERSCHIED.

Course 1 must be preceded by Course 2 in Chemistry.

2. Descriptive study of the influence of mechanical and heat treatment upon the microstructure and properties of metals and alloys. Lectures and reading. *One hour.* Mr. SMEATON.

Course 2 must be preceded by Course 1.

3. Micrometallography. Laboratory course on the microscopic structure of metals and alloys as related to their physical and chemical properties. *One hour.* Mr. SMEATON.

Course 3 must be preceded or accompanied by Course 2.

SECOND SEMESTER

2. Descriptive study of the influence of mechanical and heat treatment upon the microstructure and properties of metals and alloys. Lectures and reading. *One hour.* Mr. SMEATON.

Course 2 must be preceded by Course 1.

3. Micrometallography. See first semester. *One hour.* Mr. SMEATON.

Course 3 must be preceded or accompanied by Course 2.

ASTRONOMY

Practice in the determination of time, latitude, and azimuth is offered to students in engineering. The ordinary problems necessary in field work are taken up by each student, who makes for himself a complete series of observations and reduces his own data. A thorough drill is given in the use of astronomical ephemerides and in the making of computations. Other elective courses offer further instruction in Practical Astronomy, and in the Theory of Least Squares. This last should be taken by all students interested in experimental work.

FIRST SEMESTER

1. General Astronomy. The Solar System. *Two hours.* Professor HUSSEY.
3. Spherical and Practical Astronomy. Use of Sextant and Transit. *Two hours.* Professor HUSSEY.

SECOND SEMESTER

2. General Astronomy. The Stellar System. *Two hours.* Professor HUSSEY.
3. Spherical and Practical Astronomy. Use of Sextant and Transit. *Two hours.* Professor HUSSEY.
4. Advanced Practical Course. *Credit to be arranged.* Professor HUSSEY.
5. Theoretical Astronomy. *Four hours.* Professor HUSSEY.
6. Method of Least Squares. Theory of Errors and Adjustment of Observation. *Two hours.* Professor HUSSEY.

MINERALOGY

FIRST SEMESTER

1. Elements of Mineralogy. Lectures and laboratory work. *Two hours.* Assistant Professor Kraus.

   For Course 1 a knowledge of elementary inorganic chemistry is necessary.

3. Crystal Measurements. Measurement, calculation, and projection of crystals. Lectures and laboratory work. *Three hours.* Assistant Professor Kraus.

   Course 3 must be preceded by Course 2.

4. Determinative Mineralogy. Laboratory work. *Two hours.* Assistant Professor Kraus.

5. Blowpipe Methods. Lectures and laboratory work. *Two hours.* Assistant Professor Kraus.

   Course 5 must be preceded by Course 2, or Courses 1 and 4.

6. Research Work. Laboratory work. *Credit to be arranged.* Assistant Professor Kraus.

SECOND SEMESTER

1. Elementary Mineralogy. Lectures and laboratory work. *Two hours.* Assistant Professor Kraus.

   Course 1 must be preceded by Chemistry 2.

2. General Mineralogy. Lectures and laboratory work. *Five hours.* Assistant Professor Kraus.

   Course 2 must be preceded by Chemistry 2 and preceded or accompanied by Chemistry 3.

3. Crystal Measurements. Laboratory work. *Three hours.* Assistant Professor Kraus.

   Course 3 must be preceded by Course 2.

4. Advanced Work along such lines as may be agreed upon. *Credit arranged.* Assistant Professor Kraus.

5. Blowpipe Methods. Lectures and laboratory work. *Two hours.* Assistant Professor Kraus.

   Course 5 must be preceded by Course 2, or Courses 1 and 4.

6. Research Work. *Credit to be arranged.* Assistant Professor Kraus.

GEOLOGY

FIRST SEMESTER

1. Elements of Geology. *Three hours.* Professor Russell.

3. Advanced Geology. Reading and conferences, with laboratory and field work. *Two hours.* Professor Russell.

   Course 3 must be preceded by Courses 1 or 6, and 8.

SECOND SEMESTER

6. Elements of Geology. *Three hours.* Professor RUSSELL.
8. Elements of Geology. Historical Geology, dealing principally with the geological history of the United States. Text-book, illustrated lectures, recitations, and a short thesis. *Three hours.* Professor RUSSELL.

   Course 8 is a continuation of Course 1.
9. Glacial Geology. *Two hours.* Professor RUSSELL.

DRAWING

A very complete course in mechanical drawing is given, embracing plane projection drawing, isometric drawing, descriptive geometry, and the elementary principles of lettering, coloring, and shading, with original problems executed in the drawing-room. Students in mechanical engineering are required to sketch pieces of machinery, and afterward to make working drawings suitable for use in the shop. The plans of surveys, plane-table work, maps, designs in engineering construction, and the thesis drawings, though naturally coming under this head, are listed with the technical engineering courses.

FIRST SEMESTER

1. Geometrical Drawing. *Four hours.* (Elective.) Mr. MURPHEY.
2. Free-Hand Drawing. Pencil, Pen and Ink. Sketching. Two sections. *Three hours.* (Elective.) Miss HUNT.
4. Descriptive Geometry. Recitations and Drawing. Seventeen sections. *Four hours.* Professor DENISON, Assistant Professor GOULDING, Mr. WILSON, Mr. BARTLETT, Mr. MURPHEY, and Mr. PALMER.

5*a*. Advanced Projections. Three sections. *Two hours.* Professor DENISON, Assistant Professor GOULDING, and Mr. WILSON.

Course 5 must be preceded by Course 4.

8. Continuation of Course 7. *Two hours.* (Elective.) Miss HUNT.

   Course 8 must be preceded by Courses 2, 3, and 7.
9. Water-Color Drawing. Historic Ornament and Design. *Three hours.* (Elective.) Miss HUNT.
10. Free-Hand Lettering. *Two hours.* (Elective.) Assistant Professor GOULDING.

SECOND SEMESTER

1. Geometrical Drawing. *Four hours.* (Elective.) Mr. PALMER.
2. Free-Hand Drawing. Pencil, Pen and Ink. Sketching. *Three hours.* (Elective.) Miss HUNT.
3. Free-Hand Drawing (advanced). *Three hours.* (Elective.) Miss HUNT.

4. Descriptive Geometry. Recitations and Drawing. Eleven sections. *Four hours.* Professor **Denison**, Assistant Professor **Goulding**, Mr. **Wilson**, Mr. **Bartlett**, Mr. **Murphey**, and Mr. **Palmer**.

5. Advanced Projections and Stereotomy. Two sections. *Four hours.* Professor **Denison** and Assistant Professor **Goulding**.

Course 5 must be preceded by Course 4.

7. Water-Color Drawing. *Two hours.* (Elective.) Miss **Hunt**.

9*a*. Water-Color Drawing. Historic Ornament and Design (continued). *Three hours.* (Elective.) Miss **Hunt**.

10. Free-Hand Lettering. *Two hours.* (Elective.) Mr. **Palmer**.

SHOP PRACTICE

All courses in shop practice are under the direction of Mr. W. L. **Miggett**, Superintendent of Shops. Instruction is given in the various branches by special shop assistants.

The shop courses consist of actual practice in the shops, together with class-room recitations for which outside preparation is made from text-books and oral instruction. Courses 1 to 4 may be continued by advanced students as Courses 1*a* to 4*a*. Special arrangements are made for students who desire to take more advanced shop courses with a view to preparing themselves for teaching these subjects.

FIRST SEMESTER

1. Woodwork, Pattern-making, Foundry, Forging and metal forming and cutting operations. Four sections. *Four hours.* Mr. **Purfield** and Mr. **McDonald**.

2. Pattern-making and Foundry. (Advanced). Two sections. *Four hours.* Mr. **Purfield** and Mr. **Bull**.

3. Machine Shop. Four sections. *Four hours.* Mr. **Cobb**.

3*a*. Foundry. Three sections. *Two hours.* Mr. **Bull**.

SECOND SEMESTER

1. Woodwork, Pattern-making, Foundry, Forging and metal forming and cutting operations. Five sections. *Four hours.* Mr. **Purfield** and Mr. **McDonald**.

2. Pattern-making and Foundry. (Advanced.) Two sections. *Four hours.* Mr. **Purfield** and Mr. **Bull**.

3. Machine Shop. Four sections. *Four hours.* Mr. **Cobb**.

4. Pattern-making, Foundry and Machine Shop. *Four hours.* Mr. **Purfield**, Mr. **Bull**, and Mr. **Cobb**.

5. Instrument Making. *Two hours.*

SURVEYING

The course required for students in Civil Engineering covers a full academic year, and includes text-book work, lectures, recitations, and field practice. The methods of surveying and computing used in laying out work are explained in detail; each student is required to make plats, maps, and the necessary calculations from actual surveys; and instruction is given in the proper care, use, and adjustments of instruments. There is an ample and varied supply of instruments for the use of students.

During the first six weeks of the summer vacation between the third and fourth year, the class goes into camp in a favorable locality as a field party. A survey is made for some line of communication, usually a railroad. In this connection good field and office records are required; profiles and maps are made; and the necessary computations, including those for earthwork quantities, are worked out.

FIRST SEMESTER

1. Surveying. Lectures. Text-book, and Field Practice. *Five hours.* Professor J. B. DAVIS and Mr. MERRICK.
   The field practice in Course 1 continues during favorable weather until Christmas.
4. Use of Instruments. Three sections. *One hour.* Professor J. B. DAVIS and Mr. ATWELL.

SECOND SEMESTER

1. Surveying. Lectures, Text-book and Field Practice. *Five hours.* Professor J. B. DAVIS and Mr. MERRICK.
2. Topography. Transit and Stadia. Plane Table. Camera. Field Work and Drawing. *Five hours.* Professor J. B. DAVIS.
7. Geodesy. Geodetic Methods. Lectures and texts. *Three hours.* (Elective.) Professor J. B. DAVIS.
   Course 7 must be preceded by Courses 1 and 2.

SUMMER SESSION

3. Field Work in Camp. *Six weeks.* Professor J. B. DAVIS, Mr. MERRICK, and Mr. ATWELL.
   Open only to students in civil engineering except by special permission of the Faculty.

CIVIL ENGINEERING

FIRST SEMESTER

1. Structural Mechanics. Graphical Analysis and Strength and Resistance. Lectures, problems and text. Five sections. *Five hours.* Assistant Professor WRENTMORE, Assistant Professor GREENE, and Mr. TILDEN.

Course 1 must be preceded or accompanied by Course 5 in mathematics.

2. Theory and Analysis of Structures. Lectures and text. Two sections. *Four hours.* Assistant Professor Wrentmore and Assistant Professor Greene.

Course 2 must be preceded by Course 1.

3. Structural Design. Computations and Draughting. Two sections. *Four hours.* Assistant Professor Wrentmore and Assistant Professor Greene.

Course 3 must be preceded or accompanied by Course 2.

5. Hydraulics. Mechanics of Fluids and Hydraulic Motors. Lectures and text. Four sections. *Four hours.* Professor Williams, Mr. Bragg, and Mr. Loomis.

Course 5 must be preceded or accompanied by Course 6 in mathematics.

6. Municipal Engineering. Lectures and text. *Two hours.* Professor Williams.

Course 6 must be preceded by Course 1 and preceded or accompanied by Course 5.

8. Experimental Hydraulics. Lectures, computations and laboratory. *Three hours.* Professor Williams.

Course 8 must be preceded by Course 5.

10. Testing Materials. Lectures, computations and laboratory. Two sections. *Two hours.* Mr. Tilden.

Course 10 must be preceded by Course 1.

SECOND SEMESTER.

1. Structural Mechanics. Graphical Analysis and Strength and Resistance. Lectures, problems and text. Five sections. *Five hours.* Assistant Professor Wrentmore, Mr. Wilson, and Mr. Tilden.

Course 1 must be preceded or accompanied by Course 5 in mathematics.

4. Engineering Constructions. Lectures and text. *Two hours.* Assistant Professor Wrentmore.

Course 4 must be preceded by Course 2.

5. Hydraulics. Mechanics of Fluids and Hydraulic Motors. Lectures and text. Four sections. *Four hours.* Professor Williams, Assistant Professor Greene, and Mr. Wilson.

Course 5 must be preceded or accompanied by Course 6 in mathematics.

7. Water Supply Engineering. Lectures and text. *Two hours.* Professor Williams.

Course 7 must be preceded by Courses 1, 5, and 6.

8. Experimental Hydraulics. Lectures, computations and laboratory. *Three hours.* Professor Williams.

Course 8 must be preceded by Course 5.

9. Advanced Structural Design. Lectures, computations and drawing. *Three hours.* Assistant Professor Greene.

   Course 9 must be preceded by Course 3 and preceded or accompanied by Course 4.

10. Testing Materials. Lectures, computations and laboratory. *Two hours.* Mr. Tilden.

    Course 10 must be preceded by Course 1.

MECHANICAL ENGINEERING

FIRST SEMESTER

1. Principles of Mechanism. Six sections. *Four hours.* Professor Denison, Assistant Professor Goulding, Mr. Bursley, Mr. Loomis, Mr. Higbee, and Mr. Bartlett.

   Course 1 must be preceded by Course 1 in mathematics and by Course 4 in drawing.

2. Sketching of Machine Details. *Three hours.* Assistant Professor Hazelton and Mr. Bursley.

3. Steam Engines and other Heat Engines. Three sections. *Four hours.* Professor Allen, Assistant Professor Anderson, and Mr. Bursley.

   Course 3 must be preceded by Courses 1 and 2 in physics and by Course 4 in mathematics.

4. Machine Design. Machine Tools. Two sections. *Three hours.* Mr. Miggett.

   Course 4 must be preceded by Course 1.

5. Thermodynamics. *Three hours.* Professor Allen.

   Course 5 must be preceded by Course 3.

6. Theory of Machine Design and Valve Gears. Two sections. *Five hours.* Assistant Professor Hazelton.

   Course 6 must be preceded by Course 1 in civil engineering.

7. Steam Laboratory. Calibration of Instruments and Measurement of Power. Three sections. *Two hours.* Mr. Bursley and Mr. Higbee.

   Course 7 must be preceded by Course 3.

8. Machine Design. Hoisting Machinery. *Three hours.* Assistant Professor Hazelton.

   Course 8 must be preceded by Courses 4 and 6.

9. Steam Laboratory. Testing of Heat Engines and Boilers. Two sections. *Three hours.* Assistant Professor Anderson and Mr. Higbee.

   Course 9 must be preceded by Course 7.

10. Machine Design. Boilers and Engines. *Three hours.* Mr. Loomis.

    Course 10 must be preceded by Course 3 and Course 1 in civil engineering.

11. Gas Engines. *Two hours.* Professor Allen.

    Course 11 must be preceded by Course 5.

Primarily for Graduates

13. Heating and Ventilation. *Two hours.* Professor **Allen**.
Course 13 must be preceded by Course 3.

15. Hydraulic Machinery (advanced). *Two hours.* Professor **Cooley**.
Course 15 must be preceded by Course 5 in civil engineering.

16. Laboratory Work. Advanced Course. *Two hours.* Assistant Professor **Anderson**.
Course 16 must be preceded by Courses 7 and 9.

SECOND SEMESTER

1. Principles of Mechanism. Four sections. *Four hours.* Professor **Denison**, Assistant Professor **Goulding**, Mr. **Bartlett**, Mr. **Murphey**, and Mr. **Loomis**.
Course 1 must be preceded by Course 1 in mathematics and by Course 4 in drawing.

3. Steam Engines and other Heat Engines. Four sections. *Four hours.* Mr. **Bragg**, Mr. **Bursley**, Mr. **Loomis**, and Mr. **Higbee**.
Course 3 must be preceded by Courses 1 and 2 in physics and by Course 4 in mathematics.

4. Machine Design. Machine Tools. Three sections. *Two hours.* Mr. **Miggett**.
Course 4 must be preceded by Course 1.

5. Thermodynamics. Two sections. *Three hours.* Assistant Professor **Anderson**.
Course 5 must be preceded by Course 3.

6. Theory of Machine Design and Valve Gears. *Five hours.* Assistant Professor **Hazelton**.
Course 6 must be preceded by Course 1 in civil engineering.

7. Steam Laboratory. Calibration of Instruments and Measurement of Power. Four sections. *Two hours.* Mr. **Bursley** and Mr. **Higbee**.
Course 7 must be preceded by Course 3.

8. Machine Design. Hoisting Machinery. Three sections. *Three hours.* Assistant Professor **Hazelton** and Mr. **Loomis**.
Course 8 must be preceded by Courses 4 and 6.

9. Steam Laboratory. Testing of Heat Engines and Boilers. Three sections. *Three hours.* Mr. **Bursley** and Mr. **Higbee**.
Course 9 must be preceded by Course 7.

10. Machine Design. Boilers and Engines. *Three hours.* Assistant Professor **Hazelton**.
Course 10 must be preceded by Course 3 and Course 1 in civil engineering.

12. Power Plants. Power Transmission. *Two hours.* Professor **Cooley**, Professor **Allen**, and Assistant Professor **Hazelton**.
Course 12 must be preceded by Course 3 and Course 5 in civil engineering.

14. Compressed Air and Refrigeration. *Two hours.* Professor ALLEN.

Course 14 must be preceded by Course 5.

Primarily for Graduates

18. Thermodynamics (advanced). Steam Turbines. *Two hours.* Professor ALLEN.

Course 18 must be preceded by Course 5.

21. Design of Power Plants. *Three hours.* Professor ALLEN.

Course 21 must be preceded or accompanied by Course 12.

ELECTRICAL ENGINEERING

FIRST SEMESTER

1. Dynamo-Electric Machinery. Lectures, recitations and laboratory work. Four sections. *Three hours.* Professor PATTERSON, Mr. BAILEY, and Mr. STECK.

Course 1 must be preceded by Courses 1, 2, 3, and 4 (or 3*c*) in physics. It is intended for students not candidates for the degree in electrical engineering.

3. Alternating Current Generators and Transformers. Lectures, recitations and laboratory work. Four sections. *Four hours.* Professor PATTERSON and Mr. BAILEY.

Course 3 must be preceded by Course 2.

5. Design of Electrical Machinery and Appliances. Lectures, recitations and drawing. *Four hours.* Professor PATTERSON and Mr. BAILEY.

Course 5 must be preceded by Course 1 or 2.

7. Photometry of Electric Lamps. Lectures, recitations and laboratory work. *One hour.* Professor PATTERSON.

Course 7 must be preceded by Course 1 or 2.

9. Storage Battery Installations. Lectures, and laboratory work. *Two hours.* Mr. BAILEY.

11. Electric Generating Stations and Sub-Stations. Lectures. *One hour.* Professor PATTERSON.

Course 11 must be preceded by Course 1 or Course 2.

13. Telephone, Telegraph, Fire Alarm, Railway Signal, and Related Apparatus. Lectures and recitations. *Two hours.* Mr. MOREHOUSE.

Course 13 must be preceded or accompanied by Course 1 or 2.

15. Telephone, Telegraph, Fire Alarm, Railway Signal, and Related Apparatus. Laboratory work. *Two hours.* Mr. MOREHOUSE.

Course 15 must be preceded or accompanied by Course 13.

17. Dynamo-Electric Machinery. Special Course for Civil and Mechanical Engineers. *One hour.* Mr. BAILEY.

SECOND SEMESTER

1. Dynamo-Electric Machinery. Lectures, recitations and laboratory work. Five sections. *Three hours.* Professor PATTERSON, Mr. MOREHOUSE, and Mr. BAILEY.
   Course 1 must be preceded by Courses 1, 2, 3, and 4 (or 3*c*) in physics. It is intended for students not candidates for the degree in electrical engineering.
2. Direct Current Machinery. Lectures, recitations and laboratory work. Two sections. *Four hours.* Professor PATTERSON, Mr. MOREHOUSE, and Mr. BAILEY.
   Course 2 must be preceded by Courses 1, 2, 3, 4, and 5 in physics. It is required for candidates in electrical engineering.
4. Alternating Current Motors. Lectures, recitations and laboratory work. Three sections. *Two hours.* Professor PATTERSON, Mr. MOREHOUSE, and Mr. BAILEY.
   Course 4 must be preceded by Course 1 or 3.
6. Design of Electrical Machinery and Appliances. Drawing. *Two hours.* Mr. BAILEY.
   Course 6 must be preceded by Course 5, of which Course 6 is the continuation.
8. Electric Railways. Lectures and recitations. *Two hours.* Professor PATTERSON.
   Course 8 must be preceded by Course 1 or 2.
10. Alternating Current Phenomena. Lectures and reading. *Two hours.* Professor PATTERSON.
12. Distribution of Electricity. Lectures. *Two hours.* Professor PATTERSON.
   Course 12 must be preceded by Course 1 or 2.
14. Telephone, Telegraph, Fire Alarm, Railway Signal, and Related Apparatus. Laboratory work. *Two hours.* Mr. MOREHOUSE.
   Course 14 must be preceded by Course 13.

NAVAL ARCHITECTURE AND MARINE ENGINEERING

FIRST SEMESTER

1. Naval Architecture. Structural Design. Lectures and recitations. *One hour.* Professor SADLER.
2. Naval Architecture. Ship calculations. Lectures and recitations. *Two hours.* Professor SADLER.
3. Naval Architecture. Strength of ships and preliminary design. *Two hours.* Professor SADLER.
   Course 3 must be preceded or accompanied by Course 2.
5. Naval Architecture. Mould loft and structural drawing. *Two hours.* Mr. BRAGG.
6. Naval Architecture. Ship drawing and design. *Three hours.* Mr. BRAGG.

8. Marine Boilers. Lectures and recitations. *Two hours.* Professor Sadler.
10. Marine Engine and Boiler Drawing and Design. *One hour.* Mr. Bragg.

SECOND SEMESTER

2. Naval Architecture. Ship calculations. Lectures and recitations. *Two hours.* Professor Sadler.
4. Naval Architecture. Stability, resistance, and propulsion of ships. *Four hours.* Professor Sadler.
5. Naval Architecture. Mould loft and structural drawing. *Two hours.* Professor Sadler and Mr. Bragg.
7. Naval Architecture. Ship drawing and design. *Three hours.* Professor Sadler and Mr. Bragg.
9. Marine Engines. Lectures and recitations. Two sections. *Two hours.* Professor Sadler and Mr. Bragg.
11. Marine Engine and Boiler Drawing and Design. *Two hours.* Mr. Bragg.

Primarily for Graduates

12. Experimental Tank Work. *Two hours.* Professor Sadler.
13. Ship and Engine Specifications. *Two hours.* Professor Sadler.
14. Pumping and Ventilation. *One hour.* Professor Sadler.
15. Advanced Reading. *Three hours.* Professor Sadler.
16. Advanced Drawing. Five hours. Professor Sadler and Mr. Bragg.

ARCHITECTURE

Courses in Architecture will be offered in the year 1906-1907.

SEQUENCE OF STUDIES

The work for the first two years is the same for all regular students. At the end of the second year the student makes his choice to continue in the civil engineering, the mechanical engineering, the electrical engineering, the chemical engineering, the marine engineering, or the naval architecture course. An order of studies for the several courses for the years following the second is given in the Annual Announcement of the department. To obtain the degree in marine engineering, or in naval architecture, a student in any of the regular courses, except the course in chemical engineering, will omit the requirements for his fourth year, and take, in their place, the courses offered in naval architecture and marine engineering.

There is a limited opportunity for electives in some semesters, and credits obtained in advance at entrance may leave a place for substitutions. After the first semester of the first year the student may take work to the amount of eighteen hours a week, as arranged by the classification committee; but he may wisely, in some cases, take a smaller number of hours, if he can in that way do more thorough work.

REQUIREMENTS FOR GRADUATION

THE DEGREE OF BACHELOR OF SCIENCE

To earn the degree of Bachelor of Science in civil, mechanical, electrical, chemical, or marine engineering, the student must secure *one hundred and forty hours of credit** in a prescribed course of study, as given below, six hours of which must be earned in one Summer Session.† The diploma given indicates the line of study pursued. A time limit is not fixed; but four years is usually needed for the completion of the work required for the degree.

Bachelors of Arts, of this University, and graduates of any other reputable college, are excused from some portions of the general requirements, and are recommended for the same degree with the regular students upon completing the remaining requirements. This work can be done in two years, if the candidate has previously made considerable progress in mathematics and science. The culture imparted by classical or other liberal training will be found to have its uses for one engaged in engineering work, and previous discipline of the faculties in exact research will enable the professional student to master more easily the requirements of the course. All the time the student can devote to general studies before taking up specialties will be well spent.

A choice between the five courses in engineering is made at the end of the first year.

An additional year of study, joined to a proper selection of electives, will enable a student to obtain the degree of Bachelor of Science in another course in engineering.

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*For explanation of the term Hour of Credit, and for further information in regard to the courses prescribed for graduation, see the Engineering Announcement.

†The student entering *prior* to commencement 1904 must secure *one hundred and thirty Hours of Credit*, six hours of which must be earned in one Summer Session, and present a satisfactory *thesis*, or he may have the option of taking elective studies equivalent to a thesis.

GENERAL REQUIREMENTS

The *general requirements* are as follows:

In German, French, and Spanish: sixteen hours.
In English: Course 1.
In Mathematics: Courses 1, 2, 3, 4.
In Physics: Courses 1, 2.
In Chemistry: Courses 2, 3*a*.
In Metallurgy: Course 1.
In Drawing: Course 4.
In Shop Practice: Course 1.
In Mechanical Engineering: Courses 1, 3.

SPECIAL REQUIREMENTS

The *special requirements* in the several courses are as follows:

In Civil Engineering

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Civil Engineering, the student must satisfactorily complete, in addition to the *general requirements* named above, courses as follows:

In Mathematics: Courses 5, 6.
In Physics: Course 3*c*.
In Mineralogy: Course 1.
In Geology: Course 6.
In Drawing: Course 5.
In Surveying: Courses 1, 2, 3.
In Civil Engineering: 1, 2, 3, 4, 5, 6, 7.
In Mechanical Engineering: Course 8.
In Electrical Engineering: Course 1.
In Marine Engineering: Course 9.

In Elective Studies, taken in the Department of Engineering, or in the Department of Literature, Science, and the Arts: an amount sufficient to secure in all *one hundred and forty hours of credit.*

In Mechanical Engineering

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Mechanical Engineering, the student must satisfactorily complete, in addition to the *general requirements* named above, courses as follows:

In Mathematics: Courses 5, 6.
In Physics: Course 3*c*.
In Shop Practice: Courses 2, 3.
In Surveying: Course 4.
In Civil Engineering: Courses 1, 5.
In Mechanical Engineering: Courses 4, 5, 6, 7, 8, 9, 10, 12.
In Electrical Engineering: Course 1.
In Marine Engineering: Course 3.
In Law: Course 1.

In Elective Studies, taken in the Department of Engineering, or in the Department of Literature, Science, and the Arts: an amount sufficient to secure in all *one hundred and forty hours of credit.*

In Electrical Engineering

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Electrical Engineering, the student must satisfactorily complete, in addition to the *general requirements* named above, courses as follows:

In Mathematics: Courses 5, 6.
In Physics. Courses 3*b*, 4, 5, 12.
In Drawing: Course 6.
In Shop Practice: Course 4.
In Surveying: Course 4.
In Civil Engineering: Courses 1, 5.
In Mechanical Engineering: Course 4.
In Electrical Engineering: Courses 2, 3, 4, 5, 7, 8, 11, 12, 13, 14.

In Elective Studies, taken in the Department of Engineering, or in the Department of Literature, Science, and the Arts: an amount sufficient to secure in all *one hundred and forty hours of credit.*

In Chemical Engineering

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Chemical Engineering, the student must satisfactorily complete, in addition to the *general requirements* named above, courses as follows:

In Physics: Course 3*c*.
In Chemistry: Courses 3*b*, 5, 7, 28, 33, 35, 38, 39.
In Surveying: Course 4.
In Civil Engineering: Course 11.
In Mechanical Engineering: Course 4.
In Electrical Engineering: Course 1.

In Elective Studies, taken in the Department of Engineering, or in the Department of Literature, Science, and the Arts: an amount sufficient to secure in all *one hundred and forty hours of credit.*

In Marine Engineering

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Marine Engineering, the student must satisfactorily complete, in addition to the *general requirements* named above, courses as follows:

In Mathematics: Courses 5, 6.
In Physics: Course 3*c*.
In Surveying: Course 4.
In Civil Engineering: Courses 1, 5.
In Mechanical Engineering: Courses 4, 5, 6, 7, 9.
In Electrical Engineering: Course 1.

In Naval Architecture and Marine Engineering: Courses 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11.

In Elective Studies, taken in the Department of Engineering, or in the Department of Literature, Science, and the Arts: an amount sufficient to secure in all *one hundred and forty hours of credit.*

Or the student may take the civil, mechanical, or electrical course for three years and, for the fourth year, take the work outlined on page 85 of the Engineering Announcement.

GRADUATE COURSES

THE DEGREE OF MASTER OF SCIENCE

A candidate for the degree of Master of Science in this department must have previously received the engineering degree of Bachelor of Science from this University, or, if graduated elsewhere, must satisfy the Faculty that he possesses equivalent attainments.

He must choose a *major* subject, which shall occupy one-half of his time, from the work given in this department, and two *minor* subjects, each to occupy one-fourth of his time, to be selected from any work open to engineering students; all of the work, however, shall be subject to the approval of the Faculty. Study and residence for not less than one year will be required.

If a candidate for the degree of Master of Science desires to have his work count towards the degree of Civil Engineer, Mechanical Engineer, Electrical Engineer, Chemical Engineer, Marine Engineer, or Naval Architect the major subject must be taken in the course in which he took his bachelor's degree, and he must submit a satisfactory thesis before such degree as Engineer will be conferred.

THE DEGREES OF CIVIL ENGINEER, MECHANICAL ENGINEER, ELECTRICAL ENGINEER, CHEMICAL ENGINEER, MARINE ENGINEER, AND NAVAL ARCHITECT

The conditions under which the degree of Engineer may be obtained by graduates of this University in the Department of Engineering are as follows:

1. The candidate must furnish satisfactory evidence that he has pursued further technical studies along the lines in his profession the equivalent in amount of one year's work in the University. This work need not necessarily be consecutive. It may be done at the University or *in absentia.* In either case a prescribed course of study must be approved in advance by the Faculty. If the candidate

resides at the University he can if he desires pursue his studies with a view to obtaining the degree of Master of Science on completion of the prescribed course of study.

2. The candidate must have been engaged in professional work in positions of *responsibility* for at least one year since graduation, and must furnish a detailed account of his entire professional career one month before the date of the annual commencement at which he expects to receive the degree.

3. The candidate must prepare a satisfactory thesis on some engineering topic to be presented at the same time as the account of his professional experience, one month before commencement. The subject of the thesis must be approved in advance by the Faculty.

4. The candidate must, before beginning his work for the degree of Engineer, make formal application and register in the department. A registration fee of $10 is required, which should accompany the application. A graduation fee of $10 is also required, which must be paid one month before commencement.

FELLOWSHIP IN GAS ENGINEERING

The Michigan Gas Association continues for the year 1905-1906 the support of the Fellowship in Gas Engineering which it has maintained since 1900-1901. The annual stipend is five hundred dollars. By the terms of the gift the course of study is in charge of the heads of the departments of instruction in chemical engineering and mechanical engineering. The holder of the fellowship for the current year is Joel Martin Barnes, B.S.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year. The Auditing Board has authority, under certain conditions, to remit the fee for special entrance examinations.

Matriculation Fee.—For Michigan students, *ten dollars;* for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *forty-five dollars;* for all others, *fifty-five dollars.* The annual fee required of all graduates who are granted the privilege of pursuing studies for an advanced degree *in absentia,* is *ten dollars.*

Fee for Special Entrance Examination.—A fee of *five dollars* is required for all persons who present themselves for examination for admission at a date later than that announced in the Calendar.

Graduation Fee.—For all alike, *ten dollars.*

Laboratory Courses.—The required laboratory courses cost approximately as follows: *Shop Practice.*—In the mechanical and electrical engineering courses, *thirty dollars;* in the civil engineering course, *ten dollars. Physical Laboratory.*—A charge of *one dollar* is made for a course requiring one exercise a week during one semester, and at the same rate for the longer courses. *Mechanical Laboratory.*—The charge for each course is *five dollars. Chemical Laboratory.*—Students who take laboratory courses in chemistry are required to pay for the materials and apparatus consumed by them. The average cost for each course is about *ten dollars.* The fee required for any course has to be paid before the work of the course is begun.

The total amount of fees paid to the University during the whole four years' course, for matriculation, incidental expenses, materials used, and diploma, is, for Michigan students, from $225 to $250; and for others, from $280 to $305, varying more or less according to the student's actual laboratory expenses.

For additional information in regard to expenses, see pages 46 to 48.

Department of Medicine and Surgery

A special Announcement giving further information in regard to this department is published annually. For copies of this Announcement or for other information relating to the department, address Dr. G. Carl Huber, Secretary of the Department of Medicine and Surgery, Ann Arbor, Michigan.

THE Department of Medicine and Surgery, for which provision was made in the legislative act by which the University was organized in 1837, was opened for students in 1850. The college year was lengthened from six to nine months in 1877. The course was lengthened to three years in 1880, and to four years in 1890.

The academic year extends from the Tuesday preceding the last Wednesday in September to the Thursday preceding the last Wednesday in June (September 25, 1906, to June 20, 1907). The lectures continue till early in June. The examinations are then begun, and concluded in time for the Commencement exercises.

For the summer session of this department, see a subsequent chapter.

REQUIREMENTS FOR ADMISSION

Persons who comply with all the requirements named, and are admitted without condition, should be able to complete the medical course, and to graduate, at the end of four years. The additional time necessary to complete the course of study by persons who are permitted to enter with conditions will vary with the extent of the conditions imposed.

Every applicant for admission must present to the Secretary of the Faculty a special form of credentials, properly filled out and signed. Blank forms for this purpose are furnished on application to the Secretary. To secure exemption from examination the applicant must present credentials showing that he has completed, in some approved high school, academy, college, or university, all the requirements for admission described below, according to the conditions attached thereto. An applicant who can not present satisfactory credentials, covering all the requirements, must submit to an examination in the subjects not so covered. Certificates from the Board of Regents of the University of the State of New York are accepted in the branches covered by them.

All matriculates who have any intention of practicing medicine in the State of Michigan must present their credentials to the Michigan State Board of Medical Examiners, as well as to the Faculty of the department. The minimum legal requirements for admission to a medical school in this State are defined by statute.

Women are admitted, as to all other departments of the University, on the same condition as men.

No applicant is admitted, even conditionally, unless he be a graduate of an approved high school, or have had a training equivalent to that obtained in such a school.

To meet the requirements for admission without condition, it is expected that the applicant will have had at least two years of collegiate instruction in addition to a high school course.

The subjects required for admission are as follows:

GROUP I.—ENGLISH LANGUAGE.—(*a*) English grammar. (*b*) Composition and rhetoric. Three units.

The requirements in Group I are absolute. No student can enter without fully complying with them.

GROUP II.—HISTORY.—(*a*) History of the United States as presented in McLaughlin's *History of the American Nation,* Johnston's *History of the United States,* or an equivalent text. (*b*) General history as prescribed in Myers's *General History,* or an equivalent text. As a substitute for general history, Greek and Roman history, or English history, is accepted. Two units.

The requirements in Group II are absolute. No student can enter without fully complying with them, and no substitutions, except those mentioned, are allowed.

GROUP III.—MATHEMATICS.—(*a*) Algebra.—Fundamental rules, fractions, simple equations, involution and evolution, the calculus of radicals, and quadratic equations, as given in Olney's *Complete School Algebra,* Beman and Smith's *Elements of Algebra,* or an equivalent text. (*b*) Geometry.—Plane geometry as given in Beman and Smith's *New Plane and Solid Geometry,* or an equivalent text. (*c*) Plane trigonometry, as given in Wentworth's *Trigonometry,* or an equivalent text. Three units.

The requirements in algebra and geometry are absolute. A student may enter with a condition in trigonometry, but he must then pursue the subject with a class in the Department of Literature, Science, and the Arts two hours a week for one semester. There is no extra charge for this instruction.

GROUP IV.—NATURAL SCIENCES.—(*a*) Physics, as presented in Carhart and Chute's *Elements of Physics,* or an equivalent text. One unit.

(*b*) General biology, or botany and zoology, as presented in Sedgwick and Wilson's *General Biology,* or in Spalding's *Introduction to Botany* and Kingsley's *Comparative Zoology.* The text-book work is accepted only when accompanied by laboratory work. One unit.

(*c*) Chemistry as presented in Freer's *Elementary Chemistry,* or an equivalent amount of work in Remsen's *Introduction to the Study of Chemistry.* One unit.

No applicant will be admitted who receives a condition in more than two of the studies in Group IV. If admitted on condition, he must do extra work, as provided for below.

A student with an entrance condition in physics must take instruction in a class especially provided for such students at an extra expense of five dollars.

A student with an entrance condition in biology will find opportunity for removing this condition by taking a special course arranged for students entering with conditions in biology, or by taking the course given in general biology in the Summer Session of this University. The cost for this course in the Summer Session is fifteen dollars for tuition, in addition to the regular laboratory fees. The condition must be removed before the beginning of the student's second year of residence at the University.

A student with an entrance condition in chemistry must remove this condition in one of the following ways: (*a*) By taking a special course provided for such students with an extra fee of five dollars; (*b*) By taking the work in the Summer Session of this University preceding his entrance to the Department of Medicine and Surgery. The cost for this course is fifteen dollars for tuition, and about five dollars for laboratory material.

GROUP V.—MODERN LANGUAGES.—German or French. The applicant must be able to read one of these two languages. Preparation for this will require, for one not born to the language, two years of school work. Two units.

A student may be admitted without either German or French; but in case this is permitted, he must pursue the study of one of these two languages for two years in the Department of Literature, Science, and the Arts, and he cannot complete his medical course in less than five years after admission. There is no extra charge for the instruction in German or French.

GROUP VI.—LATIN.—(*a*) Grammar. (*b*) Prose composition. (*c*) Reading: Four books of Caesar's *Gallic War.* Two units.

Students may be permitted to enter with a condition in Latin.

As elementary Latin is not taught in the University, it will be necessary for a student conditioned in this subject to secure instruction in it at his own cost.

Time of Examination

The examination for admission will be held Saturday and Monday, September 22 and 24, 1906. At this time the Committee on Admission will examine the credentials of those who expect to be exempt from examination in whole or in part.

Before admission to examination every applicant is required to present to the Secretary of the Faculty the Treasurer's receipt for the payment of the matriculation fee and the annual fee. It will, therefore, be necessary for him to apply first to the Secretary of the University at his office in University Hall, register his name as a student in the Department of Medicine and Surgery, and pay his fees to the Treasurer. In case of rejection, the money paid preliminary to examination will be refunded.

ADMISSION TO ADVANCED STANDING

In order to be admitted to advanced standing, a student must have completed not only the didactic courses, *but also the laboratory courses* already taken by the class to which he seeks admission. When, in the judgment of the professor in charge, such a course is equivalent to that given in this department, he may give the student credit for the work done, and thus avoid repetition.

No credit can be given for lecture courses taken in schools unprepared to give the proper laboratory teaching. This applies to the clinical branches as well as to the scientific. For instance, lectures on surgery, even when accompanied by clinical demonstrations, cannot be accepted in lieu of the course given in this department in the third year, which provides for operations by the student on animals.

COURSES OF INSTRUCTION

The regular course of instruction covers four college years of nine months each. The first two years are devoted to the more strictly scientific work which serves as a basis for the technical and clinical studies which follow. The forenoons are given mainly to lectures and recitations, three each day; the afternoons to laboratory drill during the first two years, and to the study of methods of diagnosis and means of treatment during the third and fourth years. Four or five hours a day are employed in laboratory or hospital.

The following brief descriptions show the character and extent of the instruction given in the several branches during the current year, and indicate the order in which the different portions of the course are studied. Fuller details are given in the special Announcement of the department.

CHEMISTRY

1. General Chemistry. Lectures, demonstrations, recitations. Five times a week, first semester, first year. Professor S. L. BIGELOW.
2. Organic Chemistry. Lectures, demonstrations, recitations. Five times a week, second semester, first year. Professor GOMBERG.
3. Laboratory Work. From 10 to 12, five times a week for a period of twelve weeks, first year. Dr. DUNLAP.

PHYSICS

For the work in Physics a knowledge of plane trigonometry is indispensable.

1. Mechanics, Sound, Light. Lectures, demonstrations, recitations. Five times a week, first semester, first year. Dr. RANDALL.

ANATOMY AND HISTOLOGY

1. Osteology. Lectures and demonstrations. Ten hours a week for eight weeks, first semester, first year. Professor McMURRICH, Dr. YUTZY, and Dr. BEAN.

2-3. Practical Anatomy. Laboratory work. Lectures and recitations. Ten weeks from 1 to 5, first and second semester, first year. Professor McMURRICH, Dr. YUTZY, Dr. BEAN, and assistants.

4. Anatomy of the Nervous System. Lectures and illustrations. Twice a week, first semester, second year. Professor McMURRICH.
5. Regional and Surgical Anatomy. Lectures and recitations. Second semester, second year. Given by members of the anatomical and the surgical staff.
6. Anatomy of the Central and Peripheral Nervous Systems and Special Sense Organs. Laboratory and reading. Hours arranged. Professor McMURRICH and Professor HUBER.
7. Research in Anatomy. Laboratory work and reading. Professor McMURRICH.

HISTOLOGY AND EMBRYOLOGY

1-2. Embryology, Histogenesis, Histology. Three hours a week, first and second semester. Professor HUBER.

3. Laboratory Work in Histology. Every afternoon for ten weeks. Professor HUBER, Dr. McNEAL, and Mr. SNOW.
4. Dental Histology. Lectures, recitations, and laboratory work. Twelve weeks daily from 9 to 12. Professor HUBER and Dr. BUNTING.
5. Embryology. Laboratory work. Twelve weeks daily, 1 to 5. Second semester. Professor HUBER.

6. Methods of Vertebrate Histology. Hours arranged with instructor. Professor HUBER.
7. Research in Vertebrate Histology and Embryology. Hours arranged with instructor. Professor HUBER.

HYGIENE, BACTERIOLOGY, AND PHYSIOLOGICAL CHEMISTRY

1. General Hygiene. Lectures. Three times a week, second semester, second year. Professor VAUGHAN.
2. General Bacteriology. Lectures and quizzes. Three times a week, first semester, second year. Professor NOVY.
3. Practical Bacteriology. Laboratory work and recitations. Afternoons for nine weeks, second year. Professor NOVY, Mr. OWEN, and Mr. BURNETT.
4. Advanced Bacteriology. Professor NOVY.

Course 4 must be preceded by Course 3. It is an optional course, and is open only to a limited number of students.

4*a*. Advanced Bacteriology. Continuation of Course 4. Professor NOVY.

5. Water Analysis. Chemical, microscopical, and bacteriological study of drinking water. Three times a week, either semester, second year. Dr. EASTWOOD.
6. Food Analysis. Chemical and bacteriological examination of food. Professor VAUGHAN and Dr. J. F. MUNSON.

Course 6 is open only to students specially qualified for the work.

7. Research Work on Hygienic Problems. Professors VAUGHAN and NOVY.

Course 7 is open only to students specially qualified for the work.

8. Physiological Chemistry. Lectures. Three times a week, first semester, second year. Professor VAUGHAN.
9. Physiological Chemistry. Laboratory work and recitations. Afternoons for nine weeks, second year. Professor NOVY and Mr. NIMS.
10. Advanced Physiological Chemistry. Afternoons for nine weeks. Professor NOVY and Mr. NIMS.

Course 10 is an optional course.

11. The Administration of Health Laws. Special lectures.
12. The Collection and Interpretation of Vital Statistics. Special lectures. Dr. WILBUR.

PHYSIOLOGY

1. Physiology. Lectures, demonstrations, recitations. Four times a week, second semester, first year. Professor LOMBARD.
2. Physiology. Continuation of Course 1. Lectures, demonstrations, recitations. Five times a week, first semester, second year. Professor LOMBARD.

3. Practical Physiology. Laboratory work. Afternoons for nine weeks, second year. Professor LOMBARD.
4. Research Work in Physiology. Professor LOMBARD.

Course 4 is open only to students who have completed Courses 1, 2, and 3, or an equivalent amount of work.

PATHOLOGY

1. General Pathology. Text-book: Ziegler's *General Pathology*. Collateral reading. Four times a week, second semester, second year. Professor WARTHIN.
2. General Pathology. Laboratory work. Afternoons for nine weeks, third year. Professor WARTHIN.

2*a*. Journal Club. Third year. Professor WARTHIN.

Course 2*a* is elective, and is open only to students who receive special permission.

3. Gross Pathology. Gross pathological anatomy. Twice a week, third year, in addition to time taken for clinical autopsies. Professor WARTHIN.

3*a*. Gynæcological Pathology. Elective. Once a week, second semester, fourth year. Professor WARTHIN.

4. Graduate Courses. Professor WARTHIN.

PHARMACOLOGY AND THERAPEUTICS

1. Pharmacology. Lectures, demonstrations, recitations. Three times a week, second semester, second year. Dr. EDMUNDS.
2. Pharmacology. Lectures, demonstrations, recitations. Five times a week, first semester, third year. Dr. EDMUNDS.
3. Preparation of Medicine and Prescription Writing. Once a week, both semesters, third year. Dr. E. M. HOUGHTON and Dr. EDMUNDS.
4. Experimental Pharmacology. Second semester, second year. Dr. EDMUNDS and assistant.
5. Research Work in Pharmacology. Third and fourth years. Dr. EDMUNDS.

SURGERY

1. Principles of Surgery. Lectures, recitations, and text-book. Twice a week, third year. Professor NANCREDE and Dr. GEORG.
2. Diagnostic Clinic. Once a week, second semester, third year. Professor NANCREDE.
3. Demonstration Course in Operative Surgery. Third year. Clinical Professor DARLING and assistants.
4. Special Surgery. Lectures and recitations. Three times a week, fourth year. Professor NANCREDE, Clinical Professor DARLING, Dr. LOREE, and Dr. WALDRON.

5. Surgical Clinics. Fourth year. Professor NANCREDE, Clinical Professor DARLING, and assistants.
6. Ward Classes. Fourth year. Clinical Professor DARLING and Dr. LOREE.

INTERNAL MEDICINE AND DISEASES OF CHILDREN

1. Lectures and recitations. Three times a week, third year. Professor DOCK and Dr. COWIE.
2. Diagnostic Clinic. Once a week, third year. Professor DOCK.
3. Auscultation and Percussion. Practical work and reading. Third year. Dr. MORRIS.
4. Ward Class. Visits to the medical wards of the University Hospital. Fourth year. Professor DOCK and Dr. MORRIS.
5. Case Taking. Patients are assigned to members of the class, who take the history, work out the present condition, and write the results, with differential diagnosis, prognosis, and plan of treatment. Fourth year. Professor DOCK and assistants.
6. Clinical Lecture and Conference. Twice a week, fourth year. Professor DOCK.
7. Recitations on Diseases not often seen in the Clinic. Once a week, fourth year. Dr. MORRIS.
8. Diseases of Children. Lectures, recitations, and clinical instruction. Fourth year. Dr. COWIE.

DISEASES OF THE MIND AND NERVOUS SYSTEM AND ELECTROTHERAPEUTICS

1. Electrotherapeutics and Demonstration Course in Nervous Diseases. Laboratory work, ward work and reading. Two hours daily for six weeks. Professor HERDMAN, Mr. WILLEY, and Dr. SOLIS.
2. Clinical Instruction. Once a week, fourth year. Professor HERDMAN and Dr. KLINGMANN.
3. Didactic lectures, quizzes, and clinical instruction. Fourth year. Professor HERDMAN and assistants.
4. Neural Pathology. Once a week, fourth year. Dr. KLINGMANN. Course 4 is a special, optional laboratory course.
5. Physiological Psychology. Assistant Professor PILLSBURY. Course 5 is an optional course.

OPHTHALMOLOGY

1. Demonstration Course. Twice a week, for six weeks, third year. Clinical Professor PARKER and Dr. SLOCUM.
2. Lectures and Recitations. Once a week, fourth year. Clinical Professor PARKER.

OTOLOGY, RHINOLOGY, AND LARYNGOLOGY

1. Demonstration Course. Twice a week, for six weeks, third year. Clinical Professor CANFIELD.
2. Lectures and Recitations. Once a week, fourth year. Clinical Professor CANFIELD.

OBSTETRICS AND GYNAECOLOGY

1. Theory of Obstetrics. Lectures, recitations, clinical conferences. Four times a week, second semester, third year. Professor PETERSON and assistants.
2. Demonstration Course in Obstetrics. Three times a week, for six weeks, third year. Dr. MORLEY.
3. Practical Obstetrics. Small sections. Fourth year. Professor PETERSON and assistants.
4. Gynæcology. Lectures, recitations, diagnostic and operative clinics. Three times a week, fourth year. Professor PETERSON.

DERMATOLOGY AND SYPHILOLOGY

1. Lectures, recitations, clinics, and clinical conferences. Twice a week, fourth year. Dr. W. F. BREAKEY and Dr. J. F. BREAKEY.

MEDICAL JURISPRUDENCE AND TOXICOLOGY

1. Lectures from the legal standpoint. Second semester, fourth year. Professor HUTCHINS.
2. Lectures from the medical standpoint. Second semester, fourth year. Professor VAUGHAN.

BEDSIDE AND DISPENSARY INSTRUCTION

Senior students are given charge of patients, and are required to make diagnoses, prescribe, dress wounds, and perform minor operations under the direction of the professor in charge. A lying-in ward furnishes obstetrical cases, which are attended by the senior students in rotation.

EXAMINATIONS

Examinations (written, oral, or both written and oral) are held at the close of each course or semester. Students *"conditioned"* can not apply for another examination in the same subject until the close of the next course or semester, except that a student conditioned at the close of the college year may ask for another examination in the first two weeks of the following year. Students reported *"not passed"* are required to take the course over again before applying for re-examination. Candidates for graduation, who fail in an examination, are allowed a re-examination before the entire

Faculty. No student is recommended for graduation until he has completed all his required work and has passed all his examinations.

Further rules concerning examinations are given in the special Announcement of the department.

INSTRUCTION FOR WOMEN

The course of instruction for women is in all respects equal to that for men. Practical anatomy is pursued by the two sexes in separate rooms, but in the lectures, in public clinics, in the several laboratories, and in various class exercises, it is found that both sexes may attend with propriety at the same time.

COMBINED LITERARY AND MEDICAL COURSE

With a few exceptions, all the subjects of the first two years of the preceding schedule are taught in the elective courses open to students in the Department of Literature, Science, and the Arts. Students in that department who intend also to study medicine, may, therefore, be able to shorten their total period of study and residence at the University by from a year to a year and a half or two years, if they comply with the conditions on which registration in both departments at the same time is permitted (see page 129), and also pursue, as literary students, courses that cover the subjects required in the first two years of the medical curriculum. The precise amount of time gained will depend upon the amount of required medical work the student completes.

REQUIREMENTS FOR GRADUATION

To be admitted to the degree of Doctor of Medicine, a student must be twenty-one years of age, and possess a good moral character. He must have completed the required courses in laboratory work, and have passed satisfactory examinations on all the required studies included in the full course of instruction. He must have pursued the study of medicine for a period of four years and have attended four full courses of medical lectures, the last two of which must have been in this department.

Graduates of other reputable medical colleges, wishing to take a degree in this school, must regularly matriculate and do all work required in this school and not required in the school that has granted the diploma already held. The shortest term of residence for such graduates is one year. Graduates of other reputable medical schools may, however, without becoming candidates for a degree, pursue any of the graduate courses on the conditions stated below.

GRADUATE COURSES

Graduates of this department of the University, or of other medical schools, are admitted to any one or more of the regular courses of the curriculum on giving evidence of their ability to profit by the instruction given. Advanced courses, beyond the regular curriculum, are also arranged in several of the subjects taught. Graduate students are required to pay for each course the sum of ten dollars in addition to the ordinary laboratory expenses of the course, which vary with the character of the work.

The nature of the work arranged for graduate students in some of the branches of instruction is shown by the following descriptive outline:—

Hygiene and Bacteriology.—(*a*) A course in advanced bacteriological study, such as a student who has already completed the required courses in bacteriology may elect. (*b*) A course arranged especially for health officers, and including the chemical and bacteriological examination of food, water, soil, and air. (*c*) A course of laboratory instruction in bacteriology, extending through four weeks, arranged for health officers and physicians. (*d*) Provision is also made for students qualified to undertake work in research.

Electrotherapeutics.—(*a*) A course covering the subjects of electrolysis, phoresis, and electric diagnosis, the management of continuous, induced, and high tension currents, and the use of Roentgen rays and ultra-violet light. (*b*) A study of the action and technique of useful appliances designed for using electricity as an aid to diagnosis or therapy in any branch of medicine and surgery.

Nervous Diseases.—Courses in neural pathology and in diagnosis of the diseases of the mind and nervous system are open to all graduates of medical colleges in good standing who may wish to avail themselves of the opportunities for instruction here offered.

Pathology.—A systematic course in pathological histology is open to graduates, as are also special courses in the pathological histology of organs, tumors, blood, etc. Especial attention is given to graduate instruction in gynæcological pathology. Persons wishing to take the latter courses must have had the necessary preliminary training. Graduate students are received at any time, but are advised to take the courses offered in the Summer Session, when possible.

Physiology.—(*a*) A course in physiological methods, embracing the use of all the more ordinary forms of apparatus employed to record the movements of the animal body. The work is done in the first instance upon frogs, dogs, etc., and the experience thus gained is later employed in testing the reactions of the human body. The course is varied to meet the needs of the student, and is intended as an introduction to the methods employed in original investigation. (*b*) For those who have had sufficient training in laboratory methods, the apparatus and facilities of the laboratory are offered for the investigation of special problems.

Pharmacology.—A course in experimental pharmacology is open to graduates in medicine, and every facility is afforded them for investigation along special lines.

Chemistry.—Graduates may select work in any of the courses provided in the several departments of the University. The courses in analytical and organic chemistry are described on pages 113 to 115. An elective course in synthetic organic chemistry, given by Professor GOMBERG, is especially valuable to students of medicine. Special studies for individual purposes may be undertaken. Opportunity for research is given. The chemical library is supplied with the extensive repositories of science required in research, and with a wide range of literature of applied chemistry. In any part of the laboratory graduates may select any work they are prepared to pursue.

Anatomy and Histology.—(*a*) A special course in the anatomy of the nervous system. (*b*) The investigation of special problems of anatomy. (*c*) The thorough anatomical study of regions of special surgical importance. (*d*) A course in histological technique, including the methods of preparing, staining, and sectioning tissues. The course is designed for those desiring to fit themselves for histological research or for work in pathological histology. (*e*) A course on the microscopic anatomy of the eye and ear and the central nervous system. (*f*) Original investigation in microscopic anatomy for such as are capable of undertaking the work.

FACILITIES FOR INSTRUCTION

There are ample collections of plates, photographs, models, specimens, preparations, apparatus, and instruments for illustrating the different studies embraced in the course. Additions to these collections are made from time to time, so that the members of the Faculty are able to adopt every new method of illustration, to exhibit to the classes each year all important improvements in the way of instruments and apparatus, and to show their application in the practice of medicine and surgery.

The following paragraphs may serve to indicate the extent of some of these collections and the character of the work done in the several laboratories. For further information in regard to the University museums, laboratories, libraries, and gymnasiums, see pages 28 to 39.

MUSEUM OF ANATOMY

The museums of the late Professors FORD and SAGER, the result of many years' labor in collecting and preparing material intended to aid directly in teaching, are now the property of the University. The illustrative material is constantly increasing in amount by the additions of preparations from many sources, as opportunity permits.

The museum contains a valuable collection of bones illustrating healthy as well as diseased conditions, and the structure and development of the various portions of the skeleton; preparations illustrating both the normal structure of the anomalies of the nervous, vascular, and muscular systems, and of the viscera; sections through various portions of the body; and numerous models, among which a series of the Auzoux and His-Steger anatomical models, Broesike's models of the joints, and the Ziegler embryological models may be especially mentioned.

The specimens and preparations are freely available for study by the students, and are largely used in the daily work of the class room, thus forming a very valuable part of the teaching facilities of the department.

ANATOMICAL LABORATORY

The anatomical laboratory is in the new medical building. It comprises four large, well-lighted, and well-ventilated dissecting rooms, one of which is for the use of women students exclusively. In addition, there is a large neurological laboratory; and there are also special rooms for research work, an osteological storeroom, and a study room. Suitable methods are employed in the injection and preservation of the anatomical material, which is stored in a refrigerating room, maintained below the freezing point by means of a carbon-dioxide refrigerating system.

The Anatomical Law of Michigan furnishes, without embarrassment, an ample supply of material for the purpose of practical anatomy. During his course each student is obliged to dissect thoroughly and carefully every part of the body.

MUSEUM OF MATERIA MEDICA

The museum of materia medica consists of a fairly complete collection of the crude substances used in medicine, along with their principal preparations and active principles. In the arrangement of the drugs into groups convenient for study, importance is attached not to their origin but to their action. The museum is also provided with several works of reference for the use of the students, and with a number of graphic registrations of the action of drugs. It is open to students of the junior class at such hours as they arrange with the instructor.

CHEMICAL LABORATORY

(See also page 35.)

The chemical laboratory provides thorough instruction and suitable appliances for the practical study of all branches of medical chemistry. The laboratory practice, in the courses *required for graduation,* is directed by daily drill in the class-room, the classes being limited in number. At the close of the course the student is held to an examination. Elective courses and work in research are provided in all branches of chemistry, pure and applied.

ELECTROTHERAPEUTICAL LABORATORY

In the laboratory courses students are given a manual training in the generation, control, and application of electricity in all of its forms that have been found useful to the physician or surgeon. This requires the study of (*a*) the direct or galvanic current as it is obtained from primary batteries, secondary batteries, or dynamos; (*b*) the induced currents as generated by small induction coils, sinusoidal machines, alternating dynamos, or the high-tension apparatus; (*c*) the static machine; (*d*) the various forms of apparatus for the production of magnetic fields; and (*e*) the relations of the various electric modalities to physiological action. The student is also taught the methods of generating X-rays and ultra-violet light, and of employing them in diagnosis and therapeutics. The practical application of the knowledge obtained in the laboratory forms a part of the demonstration course given at the University Hospital, where a full line of the most effective electrical appliances, many of them unique in design, has been installed for this purpose.

PHYSIOLOGICAL LABORATORY

The apartments provided for the physiological laboratory offer excellent facilities for practical work, whether of class instruction or of original investigation. A large and well-lighted room is appropriated chiefly to the use of undergraduate students, who perform under the direction of instructors most of the fundamental physiological experiments. The subjects commonly embraced in the practical course relate to the physiology of muscle and nerve, reflex action, circulation, respiration, and digestion. Smaller rooms are devoted to advanced work and original investigation. The laboratory has a good supply of apparatus, tools, etc., and is open daily for physiological experiment and research.

HISTOLOGICAL LABORATORY

The histological laboratory is on the second floor of the new medical building. It provides facilities both for elementary and for advanced work in histology and histogenesis. There is a large room, accommodating forty-five students, for the elementary work in histology, and a smaller room, accommodating twenty students, for the elementary work in vertebrate embryology, together with storage rooms, a room in which a reference library is shelved, and private rooms for the use of the professor in charge and his staff. Suitable provision is made for students and graduates who desire to engage in the work of research. The laboratory equipment includes the apparatus and instruments needed for conducting the elementary work in histology and embryology, and for special research. Every encouragement is given students and other persons of sufficient preliminary training to undertake the investigation of special problems.

PHARMACOLOGICAL LABORATORY

The pharmacological laboratory is on the second floor of the medical building, and consists of two divisions, one for chemical, the other for experimental, pharmacology. Each division is supplied with apparatus and materials for original work in its branch of research, and any student or graduate receives every encouragement in the prosecution of such work. Among the apparatus recently provided may be mentioned Runne's kymographion with endless paper, two sets of revolving drums, artificial respiration apparatus driven by an electric motor, time markers and signals (electric and clock-work), batteries and secondary coils, centrifugal and "shaker" apparatus, balances, combustion furnaces, etc.

PATHOLOGICAL LABORATORY

The first floor on the east side of the new medical building and rooms in the basement are occupied by the pathological laboratory. Increased facilities are now afforded for graduate work and for work in research. A special room is also assigned to work in gynæcological pathology.

The laboratory is supplied with microscopes, microtomes, paraffin ovens, and the other apparatus necessary in the study of pathologic histology. Each student is furnished with a locker containing a microscope with high and low powers, and is assigned to a table containing the necessary stains and reagents for practical work. These are furnished by the laboratory.

The supply of material for the study of pathologic histology is the result of collections made in the pathological institutes of Vienna and Dresden, and embraces almost every known pathologic condition. This collection gives ample material for the regular courses, and, in addition, offers special opportunities to the advanced student who may wish to pursue studies in certain lines of special pathology, as the pathology of the nervous system, genito-urinary tract, skin, etc. In addition, an abundant supply of fresh material comes from the clinics of the University Hospital, and this is utilized to the fullest extent in the teaching both of gross and of microscopical pathology. The laboratory is fitted with a Bausch and Lomb carbonic acid freezing microtome for use in the making of quick diagnoses and in the preparation of fresh material for class study.

The laboratory contains a set of pathological models and the nucleus of a pathological museum which already contains many rare and valuable specimens. These are utilized for teaching purposes as far as possible.

HYGIENIC LABORATORY

The hygienic laboratory, established by a special appropriation of the legislature in 1887, and opened for work in January, 1889, is now in more commodious quarters in the new medical building. The facilities for original research have been enlarged, and from twenty to thirty students in research can be accommodated at once. Special rooms have been fitted up for the chemical, microscopical, and bacteriological study of foods and drinks, and for the prosecution of investigations in the chemistry and action of bacterial and other toxins. With the large incubating tanks now in use, it is possible to obtain a cellular substance of bacteria in large amounts.

PASTEUR INSTITUTE

The Pasteur Institute was established as a department of the hygienic laboratory in April, 1903. During the years 1903 and 1904 fifty-two cases of hydrophobia were treated at this institute. Residents of Michigan are treated without charge, but they must provide their own room and board. Persons from other states are charged one hundred dollars each for treatment. This institute gives opportunity for all the medical students to become practically familiar with the procedures necessary in the treatment of rabies.

BACTERIOLOGICAL LABORATORY

The west half of the second floor of the new medical building, containing about 7,000 square feet of floor space, is devoted to work in bacteriology. The two main laboratories contain seventy-eight desks, used by beginners and by advanced students. All the material required for the work is supplied, practically at cost, from a well-stocked dispensing room. Four rooms are devoted to the research work of the professor in charge, his assistants, and others qualified to carry on special studies. An incubating room, maintained at a constant temperature, is provided with individual drawers for the use of students. A similar room is reserved for the work in research. A cold room, including a spacious refrigerator, is cooled by means of a liquid-carbonic-acid plant in such a way that the refrigeration can be kept at, or below, the freezing point, while the temperature of the room itself is maintained at about 60° F. A special compartment of 1,000 cubic feet capacity is reserved for experimental room disinfection. Provision is made for operative work on animals, cremation of infected material, sterilization of cages, etc. The well-lighted ground floor contains the store rooms and animal rooms and, in addition, a large room for micro-photography. Gas, water, steam, and compressed air are supplied to the hoods in every work room. The laboratory is equipped with apparatus and instruments of the best make.

LABORATORY OF PHYSIOLOGICAL CHEMISTRY

This laboratory is in the west half of the third floor of the new medical building, and occupies about the same floor space as the bacteriological laboratory above described. The two rooms for the elementary and the advanced work are provided with sixty desks.

An adjoining room is equipped with balances and microscopes. A preparation room contains, among other things, a distilling plant from which the water is taken in pipes to different parts of the building. Special rooms are provided for the instructor and for research. There are also well-equipped rooms for combustions, for optical work, and for gas analysis. In every room there are spacious hoods with fittings for steam and compressed air, in addition to gas and water. By an elaborate system of fan ventilation, the air in the laboratory is renewed every fifteen minutes. A small lecture room is in direct connection with the laboratory.

MUSEUM OF NATURAL HISTORY AND LIBRARY

Students in medicine have access to the botanical, zoological, and geological cabinets of the University, estimated to contain 255,000 specimens. The Medical Library contains 14,021 volumes and 410 pamphlets, exclusive of about 7,000 volumes treating of chemistry, pharmacy, and allied subjects of importance to medical students, included in the General Library, which contains 154,435 volumes, and is open to all students. A complete catalogue, arranged both by authors and by subjects, is accessible to readers. The leading medical periodicals of this country and of Europe, 241 in number, are taken and kept on file.

THE UNIVERSITY HOSPITAL

The University Hospital has sufficient capacity to accommodate a large number of patients, is thoroughly equipped, and is in the immediate charge of competent internes and an experienced matron. It is under the direction of the Faculty, who attend regularly upon the patients (each upon such cases as may come within his special department) and give clinical instruction in the wards to senior students. In connection with the hospital there are two amphitheatres where clinics are regularly held every day during the college year, for medical, surgical, gynæcological, ophthalmological, neurological, dermatological, and venereal cases, at which time examinations are made, prescriptions given, and surgical operations performed in the presence of the class.

It is the aim of the Faculty to make instruction in clinical medicine systematic and thorough, and this they are enabled to do by an abundance of interesting cases which present themselves. The number of patients treated and operated upon in the hospital each year is more than 2,000. Each student, therefore, may see, during his two clinical years, more than 4,000 patients, many of whom present more than one abnormality. Patients are utilized for teaching purposes more thoroughly than can be done in many hospitals. The University Hospital exists for the purpose of affording clinical material and every patient is utilized, but this does not detract in any manner from the benefit which the patient may receive. Students are required to take the history and keep a record of patients, and, under proper supervision, are afforded an opportunity of personally examining the patients. Senior students are required to dress wounds and give other detailed attention to patients assigned them. Stress is laid upon the value of ward and bedside instruction. Several rooms in the hospital are furnished with laboratory appliances, and in these the student is required to make practical application of the knowledge which he has previously acquired in the scientific laboratories.

The hospital includes a lying-in ward in which senior students are given an opportunity to attend cases of labor, and become familiar with the duties of the lying-in room, under the immediate direction of the professor of obstetrics and his assistants.

For the treatment of diseases of the nervous system the hospital is furnished with apparatus for generating all kinds of electric currents. Attendants especially skilled in the application of electricity and massage are put in charge of such cases.

A large portion of the cases admitted to the hospital are from a distance, and are of more than common interest, including many cases of chronic diseases of the lungs, the heart, and the nervous system.

Under the present organization, patients are much better accommodated, and clinical instruction is rendered more systematic and efficient than was formerly possible. There is an isolated building in which patients with contagious diseases are treated. The expenses to patients are only for their board, for unusual appliances or special nursing, and for medicines, the services of the Faculty being rendered gratuitously to those made available for clinical instruction.

Patients who desire to enter the hospital are requested to write to Mr. Eugene S. Gilmore, Superintendent of the University Hospital, Ann Arbor, Mich., to ascertain if there is room for their accommodation, and to obtain a circular giving more fully the rules governing admission.

Training School for Nurses.—In connection with the hospital a training school for nurses has been established under the charge of a competent and experienced matron. The term of study and service extends through three years, at the expiration of which time those who have proved themselves worthy are granted a certificate of graduation. For further information in regard to the school, application may be made to the Superintendent of the hospital.

Psychopathic Ward.—In 1901, by action of the State Legislature, provision was made for the addition to the University Hospital of a ward especially equipped for the care of a limited number of acute cases of insanity. This was done with a view of furnishing opportunities for a more thorough study of the conditions attending insanity in its incipient stages, and with the hope that there might result the discovery of causes at present unknown, and the development of methods of treatment that might increase the number of cures.

THE NEW MEDICAL BUILDING

The new medical building, completed in 1903, measures 175 by 145 feet, with an interior court, measuring 75 by 45 feet, and has a high basement and three upper stories. It provides accommodation for the departments of hygiene, bacteriology, physiological chemistry, pathology, anatomy, histology, and embryology. It contains, further, two large amphitheatres, two lecture rooms, a faculty room, and the offices of the Dean and the Secretary.

TEXT-BOOKS AND BOOKS OF REFERENCE

Lists of text-books and books of reference recommended are given in the special Announcement of the department. The student who begins a course of reading without an instructor is advised to devote the most of his time for the first year to the elementary branches, anatomy, histology and embryology, general and medical chemistry, and physics.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance, and no student can enter upon his work until after such payment. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year.

Matriculation Fee.—For Michigan students, *ten dollars;* for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *forty-five dollars;* for all others, *fifty-five dollars.*

Graduation Fee.—For all alike, *ten dollars.*

Laboratory and Demonstration Courses.—The required laboratory and demonstration courses cost approximately as follows:

Anatomy	$20 00
Chemistry	15 00
Bacteriology	15 00
Physiological Chemistry	15 00
Histology	7 00
Electrotherapeutics	8 00
Pathology	10 00
Operative Surgery	10 00
Demonstration Course in Medicine	10 00
" " " Obstetrics	10 00
" " " Nervous Diseases	10 00
Demonstration Courses in Ophthalmology, Otology, Rhinology, and Laryngology	10 00

A deposit of the amount indicated in each case is required before the work of the course is begun.

Graduate Courses.—A fee of *ten dollars* is charged to graduate students for each course taken, in addition to the ordinary laboratory expenses of the course.

The total amount of fees paid to the University during the whole four years' course for matriculation, incidental expenses, materials used, and diploma is, for Michigan students, about $350.00; and for all others, about $400.00, varying a little with the students' actual laboratory expenses.

For additional information in regard to expenses, see pages 46 to 48.

Department of Law

A special Announcement giving further information in regard to this department is published annually. For copies of this Announcement, or for other information relating to this department, address Professor H. B. Hutchins, Dean of the Department of Law, Ann Arbor, Michigan.

THE Department of Law was opened in 1859. Its growth and influence have been marked. From the first it has been the constant endeavor of the Faculty to furnish facilities for legal training equal to any attainable elsewhere in the country. And no effort will be spared to make the department in the future deserving of continued and increasing prosperity. The Faculty is composed of both resident and non-resident members. The resident members, fifteen in number, devote themselves regularly and continuously to the work of instruction. In addition to the instruction by the regular staff, which covers all the fundamental and ordinary branches of the law, provision is made for several courses by specialists upon such subjects as international law, Roman law, comparative constitutional law, constitutional history, admiralty law, medical jurisprudence, insurance, mining law, irrigation law, patent law, copyright law, statute law, bankruptcy, neurology, electrology, and railway injuries.

The department occupies a new and spacious building, devoted exclusively to its use. It is ample in its accommodations, and admirably adapted for law-school work.

The academic year extends from the Tuesday preceding the last Wednesday in September to the Thursday preceding the last Wednesday in June (September 25, 1906, to June 20, 1907).

For the summer session of the department, see a subsequent chapter.

DIRECTIONS TO APPLICANTS FOR ADMISSION

Before admission to the department, or to the entrance examination, the applicant is required to present to the Dean the Treasurer's receipt for payment of the matriculation fee and the annual fee. It is essential, therefore, that he apply first to the Secretary of the University at his office in University Hall, register his name as a student in the Department of Law, and pay his fees to the Treasurer. He is then entitled to apply for admission. In case of rejection, the money paid preliminary to the examination is refunded by the Treasurer.

All applicants for admission to any class are expected to present themselves at the opening of the academic year. Students who enter at a later date not only lose much of the benefit of the instruction, but seriously embarrass the administration of the department. No excuse, therefore, unless of the most serious character, is accepted for delay in entering, and in no event are students admitted to regular standing in any class who present themselves after the first of November. Candidates for advanced standing, moreover, must present themselves and have their status determined at the examinations for advanced standing, held just before the opening of the department. The dates for these examinations for the year 1906-1907 are September 20, 21, 22 and 24.

REQUIREMENTS FOR ADMISSION

[For admission to advanced standing, see page 207.]

[For admission of special students, see page 209.]

[For admission to the graduate class, see page 208.]

Applicants for admission to the first-year class must be at least eighteen years of age; to the second-year class, nineteen; and to the third-year class, twenty. Applicants for admission to the graduate class must be at least twenty-one years of age. Special students must be at least twenty-one years of age.

PRELIMINARY COURSE

Candidates for admission to the department are required to furnish satisfactory evidence of preparation in the equivalent of a four-year high school course. The total amount of work offered must amount to fifteen subjects pursued for one year each.

The character of the preparatory work required is indicated by the following description, but it should be understood that an equivalent course will be accepted though some of the subjects differ from those enumerated below, provided English history and plane geometry are included.

English Language.—Preparation in English should cover at least three years of high school work in grammar, composition, rhetoric, and literature. The applicant must be able to write correct, clear, and forcible English with ease. He will be required to write an essay of not less than two pages (foolscap), correct in spelling, punctuation, capital letters, grammar, and paragraphing. The topics for essays, which will be such as the applicant is likely to be familiar with and from which he may make a selection, will be given at the time of the examination.

English Literature.—The student offering this subject should have had, in addition to the three years' work in English language above described, a fourth year devoted to a systematic study of the outlines of English literary history, illustrated by the reading of representative authors of each of the representative periods.

Foreign Language.—The requirement in foreign language may be satisfied by two years of study in any foreign language, or by one year in each of two foreign languages; but a student may, if he desires, offer four years or six years of foreign language work as part of his entrance requirements.

History.—The requirement in this subject may be met by the study of Myers's General History, or an equivalent; McLaughlin's History of the American Nation, Johnston's History of the United States, or any equivalent work upon the subject; and Ransome's History of England, or Gardiner's Students' History of England, or any equivalent work upon the subject.

The work should cover a year's study of English history, a year of general history, and a year of United States history, or of United States history and civil government. No substitute can be accepted for the English history.

Mathematics.—*Algebra.*—Through Quadratic Equations.

Plane Geometry.—As given in Olney's New Elementary Geometry, Beman and Smith's Plane and Solid Geometry, or an equivalent in other authors.

Sciences.—A year's study upon each of any two or more of the following sciences as given in an approved school: Astronomy, botany, chemistry, geology, physical geography, physics, zoology. Two sciences studied in an approved manner for one-half year each may be offered for a year's study of one science.

If a student is admitted with conditions in entrance subjects he must remove such conditions within one year from the time when they were received.

ADMISSION WITHOUT EXAMINATION

Graduates of universities or colleges, and students who have completed the amount of preliminary work indicated above in a high school or an academy approved by the Faculty are admitted to the department without examination. A diploma will not be accepted as evidence of the completion of such a course, but each applicant must present to the Dean of the department a certificate of graduation and a recommendation for admission to the department signed by the principal of the school. The certificate should show the length of time each subject was pursued and the grade secured.

ADMISSION UPON EXAMINATION

All other applicants, if candidates for a degree, must pass satisfactory examinations in the subjects required for admission to the department as outlined above. Such candidates should present themselves in time to enter the examinations beginning Wednesday, September 19, at 10 A. M.

COMBINED COURSE IN COLLEGIATE AND LAW STUDIES

The marked tendency of the day is toward an increasingly thorough equipment for every profession. In no profession has the standard of proficiency more rapidly advanced than in the law. Accordingly every student expecting to enter this department is urged to take as thorough and complete a collegiate course as his circumstances will permit. All who can do so are, therefore, urged to consider the combined course in collegiate and law studies, more fully described on page 129. It is the aim of this course to provide a broad collegiate training with a thorough technical preparation for the practice of the law.

PRIOR READING IN LAW

The student is frequently solicitious as to whether or not it is desirable for him to acquire some general knowledge of legal principles before beginning his course in a school of law. It is difficult to lay down directions upon the subject that can be applied in all cases. The Faculty, however, is of the opinion that, for the first year at least, more positive advancement will be made by students who, before entering the department, have read some of the more elementary works. But the Faculty understands very well the difficulty that most students, not in a law school, experience in giving proper direction to their reading at the beginning; and therefore does not make the prior reading of law a condition of admission to the first-year class.

ADMISSION TO ADVANCED STANDING

Students properly qualified may be admitted to advanced standing upon examination. The examinations for advanced standing in the class named are open to persons who have the general educational qualifications required for admission to the department, as indicated below:

1. To the second-year class:—

(*a*) Attorneys-at-law in good and regular standing from any state in which an examination for admission to the bar is required.

(*b*) Persons who have satisfactorily completed one year's work in another law school of approved standing, and who bring a proper certificate thereof.

(*c*) Persons who actually and in good faith, and as their principal occupation, have pursued, for a period of not less than fifteen months, in the office or under the guidance of some reputable practitioner or instructor, a course of study fairly equivalent to that pursued in this department by students of the first year, and who present to the Dean of the department the affidavit of such practitioner or instructor showing with particularity that this requirement has been met.

2. For admission to the third-year class:—

(*a*) Persons who have received, in due course, the degree of Bachelor of Laws from an approved law school maintaining an undergraduate course of not less than two years of nine months each.

(*b*) Persons who have satisfactorily completed two years' work in an approved law school maintaining an undergraduate course of three years of nine months each, and who bring a proper certificate thereof.

(*c*) Persons who, since January 1, 1898, have creditably passed the examination for admission to the bar given by the State Board of Law Examiners of Michigan, and who furnish a proper certificate thereof, or who have passed the examination for admission to the bar in other states that have an equally high standard.

The examination for advanced standing will be upon the subjects in the course that have been taken by the class which the applicant seeks to enter, or upon their equivalent. Under this regulation, the applicant is allowed to select the subjects for examination, but they must be the equivalent of those that have been taken by the class. He will receive credits for the subjects passed, and as to such subjects the examination will be final.

ADMISSION TO THE GRADUATE CLASS

Applicants for admission to the graduate class must be at least twenty-one years of age.

Until further notice, the graduate course will be open to those who, otherwise qualified, have received the degree of Bachelor of Laws from an approved law school, maintaining an undergraduate course of not less than three years of nine months each. But the privileges of the course, leading to the degree of Master of Laws, are extended only to students who have special fitness and aptitude for advanced work. Those only are admitted to the course who are especially approved by the Faculty.

ADMISSION OF SPECIAL STUDENTS

Persons who have been reading for a considerable period before making application for admission to the department, but whose reading or preliminary preparation has not been sufficiently extensive to bring them within the rules for admission to any class, are allowed to become special students, with the privilege of pursuing a selected course of study, but without the privilege of being enrolled as candidates for a degree. They are permitted, under the guidance of the Faculty, to select subjects from the different courses. A like privilege is extended to persons who have not read law before applying for admission, and whose preliminary preparation is not such as to entitle them to enter as candidates for a degree.

All special students must, however, be at least twenty-one years of age; they must satisfy the Dean of the department that they are qualified to pursue the work with profit to themselves; and they are required to pursue and complete the courses selected with the same thoroughness as regular students. No student will be permitted to pursue the work of the third year as a candidate for a degree in June unless all of his entrance conditions have been removed at or before the beginning of the year prior thereto.

TIME OF EXAMINATION

In the fall of 1906 examinations for admission will be held in the Department Building, Thursday, Friday, Saturday, and Monday, September 20, 21, 22, and 24, at eight o'clock and ten o'clock in the morning, and at two o'clock and four o'clock in the afternoon of each day. The examinations will have reference to general education, and to legal education of candidates for advanced standing. Applicants for advanced standing, unless exempt from the preliminary requirements, should be present on all the days of examination.

CLASS RATING

It is expected that, at the time of their admission to the department, students will apply for and obtain such class rating as they may desire and be entitled to, and that such rating will be final. But in the case of subsequent unexpected change in circumstances or conditions, the Faculty will, at the beginning of a semester only, entertain special applications to change from special to regular standing, or the contrary.

No student, however, is permitted to change from special to regular standing unless he possesses the general education qualifications required for regular admission to the department; nor is any student permitted by such change to shorten the time which otherwise would have been required to complete the course of study.

If the change requested contemplates advanced standing, the student must comply with the requirements for admission to advanced standing as stated above.

No student will be recommended for graduation in June who has, at the beginning of the semester prior thereto, outstanding conditions on work previously pursued in the department. Examinations for the removal of conditions are held during the second week of October of each year.

COURSES OF INSTRUCTION

The course of instruction is a graded one, and extends through three years of nine months each. The following is a statement of the subjects upon which instruction is given and the time devoted to each subject. The work consists for the most part of quiz, accompanied by oral exposition on assigned work in text-books and cases. For all recitations the classes are divided into sections.

At the opening of each semester a schedule showing the hours of recitation and the texts and case books used is published and distributed.

FIRST YEAR

FIRST SEMESTER

Contracts.—Formation of a contract, including public policy. Text-book and cases. Three hours a week. Professor KNOWLTON.

Criminal Law.—Text-book and cases. Two hours a week. Assistant Professor ROOD.

Elementary Law.—Elementary principles of jurisprudence, study of leading branches of the law as treated in Blackstone's Commentaries, Introduction, Book I (omitting chapters III-XIII), Book II (omitting chapters IV-XXIII). Lectures and text-book. Two hours a week. Professor GODDARD.

English.—Practice in writing English. The aim of this work is to develop the ability, of such importance to the lawyer, to write readily clear, correct, forcible, and concise English. Two hours a week. Mr. RANKIN.

Sales of Personal Property.—Brief introduction by lecture on the nature and kinds of personal property; sale and contract to sell; statute of frauds; conditions and warranties, and remedies for breach thereof; delivery; acceptance and receipt; seller's lien; *stoppage in transitu;* bills of lading and *jus disponendi;* factor's acts. Text-book and cases. Two hours a week. Professor BATES.

Torts.—Text-book and cases. Two hours a week. Professor WILGUS.

SECOND SEMESTER

Agency.—Text-book and cases. Two hours a week. Professor GODDARD.

Contracts.—Operation, interpretation, and discharge of contract. Text-book and cases. Two hours a week. Professor KNOWLTON.

Criminal Procedure.—Text-book and cases. Two hours a week. Professor BUNKER.

Domestic Relations.—Husband and wife, parent and child, guardian and ward, master and servant. Cases. Two hours a week. Professor SAGE.

Real Property I.—Elementary principles of real property law following Blackstone, Book II, chapters I-XXIII, accompanied by study of cases. Three hours a week. Assistant Professor ROOD.

Torts.—Text-book and cases. Two hours a week. Professor WILGUS.

Graduates of approved colleges, having a four year collegiate course are excused from the course in English, as well as others who upon entrance to the department the first week in October pass an examination showing sufficient training in English.

SECOND YEAR

FIRST SEMESTER

Bailments and Carriers.—Brief consideration of bailments in general and particular attention to the law of pledge innkeepers and common carriers of goods; carriers of passengers; the Post Office and telegraph and telephone companies as carriers of messages. Text-book and cases. Two hours a week. Professor GODDARD.

Bills of Exchange and Promissory Notes.—Includes a careful study of the Negotiable Instruments Law as enacted in many of the states. Text-book and cases. Two hours a week. Professor BUNKER.

Common Law Pleading.—Text-book and cases. Two hours a week. Professor BOGLE.

Corporations, Private.—The nature and classes of corporations; their creation, charter, and organization; corporate franchises, contracts and powers; consolidations and combinations in restraint of trade and competition. Cases. Two hours a week. Professor WILGUS.

Equity Jurisprudence I.—The origin and development of equity jurisdiction, general maxims, equitable titles, including an exhaustive study of trusts and of the powers and liabilities of trustees. Text-book and cases. Three hours a week. Professor HUTCHINS.

Partnership.—Text-book and cases. Two hours a week. Professor SAGE.

Real Property II.—Landlord and tenant, fixtures, remainders, executory interests, reversions, rule in Shelley's Case, rule against perpetuities. Text-book. Two hours a week. Professor THOMPSON.

SECOND SEMESTER

Code Pleading.—Text-book and cases. Two hours a week. Professor BOGLE.

Corporations, Private.—The doctrine of *Ultra vires;* torts and crimes of a corporation; control of corporations, state and national; correlative rights of corporations, shareholders, officers, promoters and creditors. Cases. Two hours a week. Professor WILGUS.

Damages.—Cases. Two hours a week. Professor SAGE.

Equity Pleading and Procedure.—Text-book. Two hours a week. Professor THOMPSON.

Evidence.—Text-book. Three hours a week. Professor LANE.

Quasi-Contracts.—Obligations imposed by law, enforceable through contractual remedies. Lectures and cases. Two hours a week. Professor KNOWLTON.

Real Property III.—Easements, including water rights; transfer of estates *inter vivos.* Text-book. Two hours a week. Professor THOMPSON.

THIRD YEAR

FIRST SEMESTER

Constitutional Law.—Text-book and cases. Two hours a week. Professor LANE.

Conveyancing.—The purpose and scope of the work are explained in Law Announcement. Class divided into groups by states. Text-book and practical work. Two hours a week. Professor BREWSTER and Mr. HOLBROOK.

Federal Practice.—The system of courts created under the authority of the Constitution of the United States, the jurisdiction of the several courts and the procedure therein. Text-book. One hour a week. Professor LANE.

Judgments.—Attachments, garnishments, judgments, and executions. Text-book and cases. Two hours a week. Assistant Professor ROOD.

Legal Ethics.—Instruction for the practice of the law, including the conduct of business in office and the preparation and trial of cases. One hour a week for six weeks. Professor LANE.

Practice.—The class is divided into two sections; one, consisting of Michigan students, studies Michigan practice; the other, consisting of the rest of the class, is instructed in general practice. Text-book. One hour a week. Professor BOGLE.

Practice Court.—The purpose and nature of the work are explained in the Law Announcement. Class divided into groups of four. One hour course. Professor BOGLE and Assistant Professor SUNDERLAND.

Real Property IV.—Transfer of estates by will, by adverse possession, etc.; mortgages, including liens and chattel mortgages. Text-book. Two hours a week. Professor THOMPSON.

Suretyship.—Lectures and cases. One hour a week. Professor BUNKER.

In addition to the above courses which are required of all third year students, each candidate for a degree is required to complete one of the following:

ELECTIVES

Public Officers and Extraordinary Legal Remedies.—These subjects are treated in one course, as cognate to and supplementary of each other, the cases selected at the same time developing the law of extraordinary legal remedies and illustrating the law of public officers. Nature of office; eligibility; appointment and election; acceptance; qualifying; officers *de facto;* validity of contracts concerning offices and officers; resignation; removal; acceptance of incompatible office; rights, duties, and liabilities of officers. *Mandamus; Quo Warranto; Prohibition; Certiorari; Procedendo; Habeas Corpus.* Text-book and cases. Two hours a week. Professor BATES.

Railway Law.—Nature of the railroad; organization of the corporation; location, construction, and operation of the railway; railroad liability and accident law. In this course that portion dealing with the railroad as a carrier, which was considered in the course in bailments and carriers, is omitted. Text-book and cases. Two hours a week. Professor GODDARD.

Roman Law.—A sketch of the history of the Civil Law, together with an outline of the fundamental principles of the Justinian Code. Sohm's Institutes of Roman Law. Two hours a week. Professor DRAKE.

Taxation.—The nature and purposes of taxes; the taxing power and its limitations; systems and subjects of taxation; the collection of taxes and remedies applicable thereto. Cases. Two hours a week. Professor SAGE.

SECOND SEMESTER

Conveyancing.—The work is explained in the Law Announcement. Class divided into groups by states. Two hours a week. Professor BREWSTER and Mr. HOLBROOK.

Corporations, Public.—Creation and control of public corporations; constitutional limitations concerning the same; powers, including police powers, control of streets and highways, taxation and assessments, eminent domain, corporate powers; municipal securities, charters, ordinances, liabilities, and duties. Text-book and cases. Two hours a week. Professor Bates.

Equity Jurisprudence II.—Grounds of relief in equity; equitable remedies (excepting specific performance and receivers), and special heads of equity, such as equitable estoppel, election, satisfaction, notice, priorities and subrogation. Text-book and cases. Two hours a week. Professor Hutchins.

Equity Jurisprudence III.—Specific performance and receivers. Lectures and cases. Two hours a week. Professor Bunker.

Practice Court.—The work is described in the Law Announcement. Class divided into groups of four. Two hour course. Professor Bogle and Assistant Professor Sunderland.

Private International Law.—Lectures and quizzes. Two hours a week. Professor Kirchner.

Wills and Administration.—Gifts *causa mortis;* descent and distribution; testamentary capacity; execution, revocation, and revival of wills; construction of wills; ademption and lapse of wills; executors and administrators; payment of legacies; distribution of estate.

The above courses are required of each candidate for degree. In addition he must complete one of the following:

ELECTIVES

Bankruptcy and Insolvency.—Assignments at the common law; procedure under the Bankruptcy Act. Lectures and cases. Two hours a week. Professor Thompson.

Insurance Law.—History, nature, and general principles of insurance law; fire, life, accident, and marine insurance. Text-book. Two hours a week. Professor Lane.

Jurisprudence, Science of.—The object of this course is to give students, after their study of the various branches of the law in isolation, a systematic and comprehensive study of the few underlying principles of all law, taking Holland's "Elements of Jurisprudence" as the basis of lectures and recitations. Definitions of jurisprudence, law, right, etc.; leading classifications of law and of rights; the relation of private, public, and international law. Two hours a week. Professor Drake.

Medical Jurisprudence.—The legal rights, duties, and liabilities arising out of the relation of the physician to the patient and the public; medical jurisprudence from the point of view of the physician. Two lectures and one hour of quiz each week. Professors Hutchins and Vaughan.

Besides the work above enumerated each third year student has to write a thesis for which directions are given in the Law Announcement.

SPECIAL COURSES

The following courses of special lectures, given at intervals during the year, are open to members of the second and third year classes:

Admiralty Law.—Judge Swan.
Copyright Law.—Mr. Reed.
Trade-mark Law.—Mr. Rogers.
Insurance Law.—Dr. Bigelow.
Irrigation Law.—Judge Clayberg.
Mathematics of Annuities and Insurance.—Assistant Professor Glover.
Michigan Statute Law.—Mr. Boudeman.
Mining Law.—Judge Clayberg.
Neurology, Electrology, and Railway Injuries.—Dr. Herdman.
Patent Law.—Mr. Walker.
Spanish Law.—Professor Drake.
Statute Law.—Mr. Boudeman.

EXAMINATIONS

At the end of each semester two weeks are set apart for the thorough examination of all students upon the work completed. The examinations are in writing, and are final as to the work of the semester. The promotion of a student to full standing in his class in a subsequent semester, and his continuance in the department are dependent upon the manner in which he passes such examinations. The Faculty does not hesitate to drop a student from the rolls at any time during the year, when satisfied that he is neglecting his work and not conforming to the requirements of the department.

THE PRACTICE COURT

It has been an objection frequently urged against the completeness of the training given in law schools that the student acquires no knowledge of actual practice. This objection has been largely removed by the introduction of the practice court. The practice court is a part of the department, and is presided over by the professor of practice, who gives his entire time to this work, while other members of the Faculty cooperate in conducting it. Its work is divided into three parts, that of the law term, that of the jury term, and that of appellate jurisdiction. The court is provided with a full corps of officers, including the members of the Faculty, who may sit from time to time as presiding judge, the full bench of judges sitting as a supreme court, a clerk, a sheriff, and the necessary deputies. Ample and commodious rooms have been provided for the use of the court, including a large court room fitted up with all the furniture and fittings necessary for the trial of jury cases, jury rooms, and clerk's office. The latter is provided with all the books and records used in actual practice, and a full supply of the blanks in common use in the several states.

The purpose of the court is to afford to the student practical instruction in pleading and practice both at law and in equity, under the common law system and the "code" or "reformed" procedure, and actual experience in the commencement and trial of cases through all their stages. In commencing the actions, the students assigned to the case are permitted to select the state in which the action is supposed to be brought, thus enabling the student to acquire the practice as prevailing in his own state. All questions of practice, pleading, and procedure are governed by the law of the state in which the action is so laid, but questions of substantive law are determined according to the weight of authority.

Two classes of cases are presented:

First. Cases arising upon given statements of fact, prepared and assigned by the professor of practice, upon which process is to be issued, pleadings framed, and the case conducted to an issue, when it is argued and disposed of as a question of law upon the facts submitted. The class of cases affords the student practical experience in the commencement of suits, the preparation of pleadings, and the argument of the questions of law arising from the facts. The practice and pleadings are under the common law or the code procedure as the students may elect. There are two public hearings in this course: *a.* The questions arising upon the pleadings are argued and disposed of at a regular session of the court presided over by the professor of practice. *b.* After the pleadings have been approved, the case is set down for a separate hearing upon the question of law. This argument is heard either by the professor of practice or by that member of the Faculty who has charge of the instruction in the subject involved. When the issues so arising have been satisfactorily disposed of, the student is given credit for the first course.

Second. Actual controversies are arranged and assigned for trial as issues of fact. The course includes the entire conduct of an actual case from its beginning to a final judgment in the supreme court. This involves the issue of a proper process, the preparation and filing of appropriate pleadings, the subpœnaing of the witnesses, the impaneling of a jury, the examination and cross-examination of witnesses, the arguments to the court and jury, and all the other incidents of a contested trial.

For the purpose of this work the class is divided into sections, and the work of attorneys, witnesses, jurors, and the like is performed by the students. A member of the Faculty presides at these trials, and they are conducted with all the dignity and decorum of actual practice. Upon the satisfactory completion of the course, credit is given for it.

Every member of the third-year class who is a candidate for a degree is expected to take part in both courses, and to perform all the incidental duties which may be required of him. Satisfactory completion of both courses is a condition precedent to graduation.

The practice court supercedes the moot courts formerly conducted in the department.

CONVEYANCING

In order further to extend the practical instruction given in this department, a course in conveyancing is provided, to which one professor devotes his entire time. It is the purpose of this course to give by text-books and lectures a full and systematic instruction in the substantive law of conveyancing, and also a thorough drill in the actual preparation of all the more important forms of conveyances, including thereunder not only deeds, mortgages, wills, and assignments of various sorts, but also all such contracts, agreements, corporate and partnership articles, and other instruments, as the lawyer in actual practice is likely to be called upon to prepare. To accomplish this purpose, the class is furnished with statements of fact and with a requisition for the appropriate conveyance, and each student is required to prepare, under the direction of the professor in charge of this course, the various forms of instruments in question, and to submit them for examination and criticism. If not in proper form, they must be rewritten or corrected. Neatness, accuracy, and a lawyer-like method of expression are insisted upon. The correctness of the body of the instrument is not alone attended to, but the variations of form in the execution and acknowledgment where one of the parties is a corporation, a partnership, a married woman, and the like, receive attention.

The work in this course must be satisfactorily completed by each member of the third-year class.

ELOCUTION AND ORATORY

It is important that those who study law with a view to becoming advocates should give attention to the subject of public speaking. It is a mistake to suppose that excellence in speaking is simply a gift of nature, and not the result of patient and persistent labor and study.

Information regarding the University Oratorical Association, the Northern Oratorical League, the Central Debating League, the testimonials, and the annual contests in oratory and debate, which afford opportunity for a practical application of the principles taught, may be found on pages 42 to 44.

The following courses, given by Professor **Trueblood** and Mr. **Hollister**, are optional; but when a student has elected a course he is required to complete it. Failure to do so will affect his standing at graduation.

FIRST-YEAR CLASS

First Semester

1. *Elocution.* Exercises in vocal culture, breathing, position, and gesture; pronunciation and emphasis; elements of quality and force of voice, with their application to choice passages from the orators. Two sections. Two hours a week.

Second Semester

2. *Elocution.* Exercises in vocal culture, continued; principles of action. Elements of pitch and time, and their application to representative selections. Two sections. Two hours a week.

SECOND-YEAR CLASS

First Semester

3. *Study of Forensic Orators and Oratory.* Lectures on methods of public addresses and sources of power of the orator; study of representative orations. Two hours a week.

Second Semester

4. *Oral Discussions.* Designed to develop readiness of extemporization. Practical application of the principles of formal logic. Leading questions of the day debated in class. Lectures on argumentation and persuasion. Two hours a week.

THE GRADUATE COURSE

In 1889 the Board of Regents established in the Department of Law a Graduate Course, upon the completion of which the degree of Master of Laws is conferred. The requirements for admission to this course are given on page 208.

The course of study and the subjects on which graduate students recite and are examined are as follows:

Public International Law. Theses are required on topics assigned. President **Angell**.

History of Treaties. President **Angell**.

The Railroad Problem. Professor **Adams**.

Comparative Constitutional Law. Lectures on the institutions of Germany, France, and other continental states, with a study of works on the English Constitution. Professor **Hudson**.

Advanced Course in Constitutional Law and Constitutional History. Assistant Professor VAN TYNE.

Roman Law. Professor DRAKE.

In addition to the foregoing subjects, each graduate student is required to elect at the opening of the university year *three* of the subjects hereinafter named, one of which he shall designate as his *major* subject, and the other two as his *minor* subjects. To the *major* subject the student must give his best energies, making his investigations therein thorough, comprehensive, and exhaustive. To the *minor* subjects he is expected to give all the attention which his time will permit. His work in the *minor* lines is of a more general character, and, although it must be thorough as far as prosecuted, it is less extended than that given to the *major* subject.

The subjects of study from which the student may select his *major* and his *minor* subjects, are as follows: Contracts; Torts; Mercantile Law; Public and Private Corporations; Railroad Law; Insurance Law; Private International Law; Real Property; Jurisdiction and Procedure in Equity; Domestic Relations; Taxation; Public Offices; Admiralty; Roman Law; American Constitutional History; American Constitutional Law; English Constitutional History; Comparative Jurisprudence; Political Science.

Each graduate student is under the special guidance of the professors in whose departments his subjects lie. From them he receives instructions as to the questions to be investigated, and to them he makes regular weekly reports. The work of the student is carefully examined and criticised, and such suggestions are made as may be thought necessary. The scheme contemplates independent investigation by the student along the lines chosen, under the direction and supervision of the Faculty.

All of the special courses given by the non-resident lecturers are open to graduate students, and they are required to take such of them as they did not take as undergraduates. They are also allowed to attend the lectures given to the undergraduate classes, though undergraduates are not admitted to the lectures given to graduate students.

Each graduate student is also required to prepare a thesis, which must be scholarly and exhaustive in character, upon some topic connected with his *major* subject. This thesis is made a special feature of the graduate work.

The graduate course covers one year. At the end of each semester each student is examined both orally and in writing upon all work taken.

REQUIREMENTS FOR GRADUATION

THESIS

Each candidate for a degree is required to prepare and present a thesis, not less than four thousand words in length, upon some legal topic selected or approved by the Committee on Theses.* The thesis must be satisfactory in matter, form, and style; must be neatly and accurately typewritten; and must be filed with the Committee *on or before the fifteenth of March of the year in which the degree is to be taken.*

THE DEGREE OF BACHELOR OF LAWS

Students who have received the full course of undergraduate instruction, performed all required exercises, and passed the regular examinations, are admitted to the degree of Bachelor of Laws. Students admitted to advanced standing are entitled to all the privileges of the class of which they become members.

THE DEGREE OF MASTER OF LAWS

The degree of Master of Laws is conferred on the graduate of this department who pursues the study of law in this University for one year after graduation, and who completes to the satisfaction of the Law Faculty the graduate course above described (page 219); and the privilege thus extended to graduates of this department is also extended to the graduates of other law schools who are entitled under the foregoing rules to advanced standing as members of the graduate class.

CERTIFICATES OF ATTENDANCE

A person who has been connected with the school for a period not entitling him to graduate may, on application to the Dean of the department, receive an official certificate of attendance, which states the time of his attendance and the degree of his attainment.

LIBRARIES

The Law Library contains the reports of every State in the Union, the reports of the Federal Courts, the English, Scotch, Irish, and Canadian reports, together with such collateral reports as the Law Journal Reports, the Jurist, the Law Times Reports, the Weekly Reporter, the Scottish Law Reporter, the Irish Jurist, the Irish Law

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*The Committee on Theses for the Current year consists of Professors Bunker, Bates, and Sage.

Times, the English Ruling Cases, the National Reporter System, the American Decisions, the American Reports, the American State Reports, and the Lawyers' Reports Annotated, as well as several series of cases upon particular branches, such as the American Probate Reports, the American Electrical Cases, the American and English Railroad Cases, the American and English Corporation Cases, etc. Of several of the more important series one or more duplicates are to be found in the library. It also contains an extensive collection of treatises and text-books, both English and American, and copies of the statutes of the several States and of the United States. New reports, as they are issued, are added, as are new text-books and treatises of merit. The library is also well supplied with sets of selected and leading cases and of legal periodicals. The Law Quarterly Review (London), the American Law Review, the American Law Register, the Canadian Law Journal, the Harvard Law Review, the Columbia Law Review, the Albany Law Journal, the Central Law Journal, the Juridical Review, the Green Bag, and others, are regularly taken and kept on file.

The library was enriched some years ago by the gift of the valuable law library of the Honorable Richard Fletcher, formerly one of the Justices of the Supreme Court of Massachusetts; and, recently, by the gift of the valuable law library of the Honorable Samuel T. Douglass, for many years one of the leading lawyers of the State, and formerly one of the Justices of the Supreme Court of Michigan.

The Honorable Christian H. Buhl, of Detroit, bequeathed to the University for the Law Library the sum of ten thousand dollars. This gift, which has been used in the purchase of books, has added materially to the value and efficiency of the large collection of reports and text-books presented to the library by Mr. Buhl a few years ago, and known as the Buhl Law Library. It has enabled the department to provide for its students library facilities that are second to none in the country.

The library is open for consultation by students from 8 A. M. to 12 M., from 1 to 6 P. M., and from 7 to 10 P. M., during the academic year. Students are not permitted to take books from the building, but during the hours named are allowed free access to them.

The General Library of the University (see page 28) is also open to use by students in the Department of Law.

LITERARY SOCIETIES

There are three flourishing literary societies—the Webster, the Jeffersonian, and the Sumner—conducted by students of Law for the purpose of literary culture.

WORK IN THE DEPARTMENT OF LITERATURE, SCIENCE, AND THE ARTS

CONSTITUTIONAL HISTORY AND POLITICAL SCIENCE

It seems now to be conceded that the law should be studied in a law school, and that the law school should be connected with a university, where students can avail themselves of opportunities for the study of such other branches of learning as are of allied significance.

It is believed that students in the Department of Law may derive great benefit from the instruction given on kindred subjects in the Department of Literature, Science, and the Arts (page 62). Students who first obtain permission from the committee in charge of the combined work in the two departments (see below) are allowed to attend lectures delivered in that department free of charge. But the Law Faculty reserves the right to require such students to give up any or all studies they may be pursuing in the other department, whenever it appears that the pursuit of these studies is attended with an unsatisfactory performance of the duties required in the Department of Law. Among the subjects regarded as particularly suitable for law students the following may be named: Political and Constitutional History of England; Constitutional History and Constitutional Law of the United States; Comparative Constitutional Law; History of the Middle Ages; Elements of International Law; History of Treaties; the social, sanitary, and economic sciences.

COMBINED LITERARY AND LAW COURSE

Under an arrangement entered into by the Faculties of the two departments it is now possible for a student to carry on, to some extent and under certain conditions, collegiate studies and studies in law at the same time. The work of students who receive permission to enter upon the combined course is under the supervision of a joint special committee consisting for the current year of Professors HUDSON, HUTCHINS, GODDARD, TAYLOR, and LLOYD.

A fuller description of the combined course may be found on page 129.

MASTER'S DEGREE IN ARTS AND SCIENCE

A graduate of the Department of Literature, Science, and the Arts, who is a candidate for a degree in the Department of Law, may, by permission of the Faculties of the two departments, be enrolled at the same time in the Graduate School, as a candidate for a Master's degree (compare page 141). The privilege thus extended to graduates of this University is also extended to graduates of other colleges who satisfy the Faculty of the Department of Literature, Science, and the Arts, that the courses of study for which they obtained their first degree are equivalent to the courses of study for the corresponding degree at this University. Useful and desirable opportunities are thus afforded to college graduates who wish to study law and at the same time to supplement their professional studies with a broader knowledge of other branches that will be helpful to them in their professional work.

It is understood, however, that, if their work in the Department of Law is not satisfactory, the Law Faculty will require students of law to discontinue their studies for the Master's degree.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance, and no student is allowed to select his seat until after such payment. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year.

Matriculation Fee.—For Michigan students, *ten dollars;* for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *forty-five dollars;* for all others, *fifty-five dollars.*

Library Fee.—For all students, *two dollars* annually.

Graduation Fee.—For all alike, *ten dollars.*

For additional information in regard to expenses, see pages 46 to 48.

School of Pharmacy

A special Announcement giving further information in regard to this school is published annually. For copies of this Announcement, or for other information relating to the school, address The School of Pharmacy, Ann Arbor, Michigan.

THE School of Pharmacy gives training for all branches of pharmacy and for various chemical pursuits. It provides a well-grounded preparation for services as a manufacturing chemist, or as an analyst. The graduate is assured a thorough qualification for the prescription table, and for the most responsible positions in pharmacy. He is fitted to act as the chemist of the medical profession. In respect to the discipline of both the intellectual and the executive powers, the work of the school offers decided advantages, in the steady requirement of severe studies, and of exact operations on the part of each student.

The school year extends from the Tuesday preceding the last Wednesday in September to the Thursday preceding the last Wednesday in June (September 25, 1906, to June 20, 1907). Students of the first year are released the second Friday before Commencement.

For the full regular work, admission cannot be granted at any other time than at the opening of the first or the second semester (February 11, 1907), as students are instructed in classes in progressive order. For investigations, or special studies, students can be received at any time when there is room in the laboratories. The most of the subjects taught in the school can also be taken in the Summer Session of the University (see page 261).

REQUIREMENTS FOR ADMISSION

[For admission to advanced standing, see page 226.]

[For admission of students not candidates for a degree, see page 227.]

The requirements for admission vary in some particulars with the applicant's previous training in practical pharmacy, and with the course of study he intends to pursue. They are described below in two divisions: (I) requirements for admission to the two-year course, leading to the degree of Pharmaceutical Chemist; (II) requirements for admission to the four-year course, leading to the degree of Bachelor of Science in Pharmacy.

Application for admission must be made upon a special form of recommendation properly filled out and signed. Blank forms for this purpose are furnished on application to the Dean of the department.

I. COURSE LEADING TO THE DEGREE OF PHARMACEUTICAL CHEMIST

Applicants for admission to the two-year course, leading to the degree of Pharmaceutical Chemist, must be at least sixteen years of age.

ADMISSION WITHOUT EXAMINATION

From High Schools.—Applicants holding diplomas of graduation in any of the full courses of the schools approved by the Faculty of the Department of Literature, Science, and the Arts (compare page 58), are admitted without examination, as are, also, graduates of four-year courses of other high schools of good standing.

From Colleges.—Students who have completed at least one year's work in an approved college of literature and science, and who bring explicit and official certificates describing their course of study and scholarship, and testifying to their good character, are admitted without examination. Graduates of colleges of medicine or of pharmacy are also admitted without examination.

ADMISSION ON EXAMINATION.

The requirements for admission are stated below in *units*, a unit meaning a subject of study pursued through a school year, with not less than four recitation periods each week.

1. Persons who have not been engaged in the practice of pharmacy for at least two years are required to present themselves for examination on *fifteen units*. The fifteen units must include:

English, 2 units.

Mathematics (arithmetic, algebra, and plane geometry), 3 units.
Physics, 1 unit.

The remaining nine units may be selected by the applicant from the following list of optional requirements:

Chemistry, 1 unit.
Botany, 1 unit.
Physiology, 1 unit.
Latin, 2, 3, or 4 units.
German, 2, 3, or 4 units.
English Literature, 1 unit.
Zoology, 1 unit.
Mathematics (additional, including Solid Geometry), 1 unit.
Bookkeeping and Commercial Practice, 1 unit.
French, 2, 3, or 4 units.
Physiography, 1 unit.
History, 1, 2, or 3 units.
Civil Government, 1 unit.
Geology, 1 unit.
Astronomy, 1 unit.
Greek, 2 units.

2. Persons who bring evidence of *having been engaged in the practice of pharmacy* for at least two years are required to present themselves for examination on *twelve units.* The twelve units must include:

English, 2 units.
Mathematics (arithmetic and algebra), 2 units.
Physics, 1 unit.

The remaining seven units may be selected by the applicant from the list of optional requirements given above.

II. COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACY

The requirements for admission to the four-year course, leading to the degree of Bachelor of Science in Pharmacy, are the same as the requirements for admission to the Department of Literature, Science, and the Arts. See pages 49 to 56.

The rules relating to conditional admission and to admission from diploma schools (page 58) apply also to students admitted to the four-year course in the School of Pharmacy.

ADMISSION TO ADVANCED STANDING

Students who have been admitted to the school may apply for credit in any of the subjects here taught, which they may have pursued in another college or in a high school whose graduates are entitled to admission. The application should be made to the Dean at the time of entering the school. It will be referred to the professor in charge of the studies in which credit is asked, and he will determine how much credit, if any, can be given. To this end he may appoint a time for examination of the applicant upon the subject. Credits from other schools of pharmacy are adjusted separately for each study, in a similar manner. Owing to differences in the order and extent of the studies, credits cannot be counted in years of pharmaceutical college study. Applicants are desired to bring explicit credentials as to the work done, or to send such credentials in advance, if they wish them acted upon before the opening of the school year.

Students in the four-year course, applying for advanced credit, will govern their applications according to the rules in force in the Department of Literature, Science, and the Arts (page 59), though making their application to the Dean of the School of Pharmacy.

ADMISSION OF STUDENTS NOT CANDIDATES FOR A DEGREE

Persons over twenty-one years of age, who are able to study with advantage in the school, may be admitted to pursue selected studies upon passing the admission requirements in three units of English. The same privilege is accorded to persons over nineteen years of age who also bring evidence of having been engaged in the practice of pharmacy for at least two years.

Students admitted under the foregoing provisions are not regarded as candidates for any degree, and they do not become eligible for graduation until they have passed all the examinations for admission to the course leading to the degree which they seek to obtain. To become eligible for graduation with the degree of Pharmaceutical Chemist, the student must, at least, pass the examination for admission required of those who have engaged in the practice of pharmacy. To become eligible for graduation with the degree of Bachelor of Science, the student must meet the full entrance requirements of the course leading to that degree.

Students not candidates for a degree may select such studies as they are found prepared to pursue, under the regulations of the Faculty. Courses of selected studies are arranged for students, to suit their purposes and qualifications. Selected studies may be continued so long as, in the judgment of the Faculty, they are carried with success and profit.

TIME OF EXAMINATION

For Admission to the Two-Year Course.—An examination for admission will be held on Thursday and Friday, September 20 and 21, 1906, beginning at 9 A. M., on Thursday.

For Admission to the Four-Year Course.—The examination for admission will be held in connection with that of applicants for admission to the Department of Literature, Science, and the Arts (see page 57).

COURSES OF INSTRUCTION

The courses of instruction comprise lectures, recitations, and laboratory work. The amount of work in each course is expressed in hours, an *hour* signifying one exercise a week during one semester. A lecture or recitation is usually one hour in length. A laboratory exercise occupies approximately three hours, being continued until the work assigned to one exercise, or a due proportion of the work assigned to the course, has been completed. The satisfactory completion of one exercise a week during one semester, including a sufficient standing in the examination held at the end of the semester, entitles the student to one *hour of credit* toward graduation. It is expected that a lecture or a recitation, with the personal study necessary to maintain the student's standing in the subject, will take in all as much time as a laboratory exercise. Therefore an *hour of credit* is regarded as having the same value whether obtained in a course of lectures or in a course of laboratory exercises.

In the descriptive schedule that follows, the letters A, B, C, etc., denote courses designed primarily for students in the School of Pharmacy. The courses designated by numbers are, with a few exceptions, practically identical with corresponding courses, similarly numbered, given in the Department of Literature, Science, and the Arts (compare pages 108 to 127). The amount of credit toward graduation is indicated by the expressions *two hours, three hours,* etc.

PHARMACY

A. Theory and Practice of Pharmacy. Lectures and recitations. *Three hours.* First semester. Professor STEVENS.

B. Operative Pharmacy and Pharmaceutical Preparations. Laboratory work and recitations. *Five hours.* First semester. Professor STEVENS and Mr. ZIEFLE.

C. Pharmacopœia and National Formulary. Lectures. *Five hours.* Second semester. Professor STEVENS.

D. Prescription Reading and Incompatibilities. Lectures, recitations and practice at the prescription stand. *Two hours.* First semester. Professor STEVENS.

E. Inorganic Pharmacy. *Two hours.* First semester. Professor STEVENS and Mr. ZIEFLE.

F. Manufacturing Pharmacy. *Three hours.* Continuation of Course B. Second semester. Professor STEVENS and Mr. ZIEFLE.

BOTANY

A. Vegetable Histology. Lectures and laboratory work. *Three or five hours.* Professor NEWCOMBE.

B. Foods and Drugs. Lectures and laboratory work. *Five hours.* Second semester. Professor SCHLOTTERBECK.

PHARMACOGNOSY

C. Study of Crude Drugs. Lectures, recitations, and practical exercises. *Four hours.* First semester. Professor SCHLOTTERBECK and Mr. TAFT.

PHARMACOLOGY AND THERAPEUTICS

D. Materia Medica. Recitations and lectures. *Four hours.* Second semester. Dr. HALE.

CHEMISTRY

1. Elementary Inorganic Chemistry. *Two hours.* Two experimental lectures and one recitation a week. Dr. HALE.

Course 1 must be accompanied by Course 1*a*.

1*a*. Elementary Inorganic Chemistry. *Two hours.* Two laboratory periods and one hour discussion of laboratory work a week. Dr. HALE, Dr. BALCOM, and Mr. WURSTER.

2 and 2*a*. Elementary Inorganic Chemistry. Continuation of Courses 1 and 1*a*, the hours, credits, and instructors being the same in each semester.

Course 2 must be accompanied by 2*a*.

A. Inorganic Chemistry. Descriptive and Experimental. Lectures and quizzes. *Four hours.* First semester. Professor BIGELOW.

Course A is a course for beginners.

A*a*. Inorganic Chemistry. *Two hours.* Two laboratory periods and one hour discussion of laboratory work a week. Mr. WURSTER. Must accompany Course A.

3. Qualitative Analysis. Laboratory work and recitations. *Seven hours.* Either first or second semester. Professor JOHNSON and Mr. H. H. WILLARD.

Course 3 must be preceded by a course in General Chemistry.

5. Quantitative Analysis. Laboratory work, lectures, recitations. *Five hours.* Either first or second semester. Professor CAMPBELL and Mr. ZIMMERSCHIED.

Course 5 must be preceded by Course 3.

28. Advanced Quantitative Analysis. Laboratory work. *Five hours.* Either first or second semester. Professor CAMPBELL and Mr. ZIMMERSCHIED.

Course 28 must be preceded by Course 5. It is open only to those who receive special permission.

29. Iron and Steel Analysis. Laboratory work. *Five hours.* Either first or second semester. Professor CAMPBELL.

Course 29 is open to those who have completed Course 5 and have received special permission.

31. Analysis of Minerals. Laboratory work. *Five hours.* Either first or second semester. Professor CAMPBELL.

Course 31 must be preceded by Course 28. It is open only to those who receive special permission.

7. Carbon Compounds. Lectures. *Five hours.* First semester. Professor GOMBERG.

Course 7 must be preceded by a course in General Chemistry and a course in Analytical Chemistry.

42. Organic Preparations. Laboratory work in organic synthesis. *Three, four,* or *five hours.* Either first or second semester. Professor GOMBERG and Dr. CONE.

Course 42 may accompany or follow Course 7.

44. Organic Analysis and Drug Assaying. Laboratory work and lectures. *Seven hours.* Second semester. Professor SCHLOTTERBECK, Mr. ZIEFLE, and Mr. TAFT.

Course 44 must be preceded by Course 7 and by a course (5) in Quantitative Analysis.

10. Organic Chemistry. Lectures. *Four hours.* Second semester. Professor GOMBERG.

Course 10 is intended primarily for classes in other departments of the University, and is open to students in the School of Pharmacy only by special permission.

PHYSIOLOGICAL CHEMISTRY AND BACTERIOLOGY

2. Bacteriology. Lectures. *Three hours.* First semester. Professor NOVY.

3. Bacteriology. Laboratory work. *Three hours.* Professor NOVY.

Course 3 is given four times a year, each class working for two months.

8. Physiological Chemistry. Lectures. *Three hours.* First semester. Professor VAUGHAN.

9. Physiological Chemistry, including the Analysis of Urine. Laboratory work and lectures. *Four hours.* Professor NOVY.

Course 9 is given four times a year, each class working for two months. It must be preceded by a course in Qualitative Analysis and by Course 7 in Organic Chemistry.

PHARMACOLOGY

1. Pharmacology. Lectures, recitations and demonstrations. Five times a week during the first semester. Dr. EDMUNDS.

It is open only to those who receive special permission, and who have had previous work in physiology.

4. Experimental Pharmacology. Dr. EDMUNDS and Dr. HALE.

PHYSIOLOGY

1. Physiology. Lectures, recitations, and demonstrations. Five times a week during the first semester. Professor **Lombard**.

Course 1 must be preceded by a course in Organic Chemistry, and it is also desirable that the student have had studies in Anatomy. It is open only to those who receive special permission.

MINERALOGY

1. Elements of Mineralogy. Lectures and laboratory work. *Two hours.* Either first or second semester. Assistant Professor **Kraus**.

Course 1 should be preceded by a course in General Chemistry.

2. General Mineralogy. Lectures and laboratory work. *Five hours.* Second semester. Assistant Professor **Kraus**.

Course 2 should be preceded by a course in General Chemistry and a course in Analytical Chemistry. It includes Course 1.

PHYSICS

1. Mechanics, Sound, and Light. *Four hours.* First semester. Professor **Reed**.

For Course 1 a knowledge of plane trigonometry is indispensable.

2. Heat and Electricity. Lectures. *Four hours.* Second semester. Professor **Reed**.

Course 2 must be preceded by Course 1 and by a course in General or in Analytical Chemistry.

COMMERCIAL TRAINING

A practical course in commercial training, embracing such subjects as bookkeeping for the retail pharmacist, checks, notes, drafts and exchange, bills, statements, collections, price lists, credits, discounts, mercantile agencies, and inventories and balances, is prescribed for all students of the school.

RESEARCH

Courses in research, in either the first or second semester, are open to any regularly registered student, suitably prepared by previous training to enter upon an investigation, whether the results are to be published or not. The work undertaken is in charge of one or more members of the Faculty, and is entitled to credit toward a degree in proportion to its extent and value. The opportunity for undergraduates to enter upon research work is usually limited to the last year of the four-year course, and to the last semester of the two-year course. The holder of a fellowship devotes his time to experimental research with publication of the results in view.

EXAMINATIONS

An examination upon each course of instruction is held at the time the work of the course is completed. The examinations, therefore, are held mostly at the end of a semester (in February and in June).

The result of an examination, for each student enrolled, is reported to the Faculty by the professor in charge, in terms as follows:

Passed.—Entitling the student to full credit for the course.

Conditioned.—Imposing some specific condition, usually to take another examination, the condition to be fulfilled before credit can be given.

Provisionally Passed.—Withholding the credit from the course until the student shall have done better work in other studies, in the judgment of the Faculty as a whole, which can change the record of Provisionally Passed to a record of Passed, or Conditioned, or Not Passed, whenever such change shall be justified by the scholarship of the student in his several studies.

Not Passed.—Requiring the student to go over the regular exercises of the study again before he receives another examination.

Absent.—With statement of the cause of absence; if the student has left the class, stating at what time; or stating if absent without excuse or explanation.

SUCCESSION OF STUDIES

I. IN THE TWO-YEAR COURSE

First Year, First Semester:—Chemistry A and A*a* (inorganic), Pharmacy A and B.

First Year, Second Semester:—Chemistry 3 (qualitative), Botany B (micro-botany), Pharmacy A (inorganic), Elements of Accounting.

Second Year, First Semester:—Chemistry 5 (quantitative), Chemistry 7 (organic), Pharmacognosy C, Prescriptions.

Second Year, Second Semester:—Chemistry 44 (drug assaying). Pharmacy C and F (preparations), Pharmacology and Therapeutics D.

The studies enumerated above are, without exception, required for the degree of Pharmaceutical Chemist. They constitute an amount of work which taxes the full working power of a student of average quickness and strength of scholarship. Students who enter the school at the beginning of the second semester will probably find it desirable to take five semesters for the completion of the work; and other students who desire a longer time for the same work may apply for it on entering the school, or during their first semester of residence, and obtain from the Faculty a distribution of all the work through five or six semesters, as may be found advisable in each case.

II. IN THE FOUR-YEAR COURSE

Students who enter the school prepared in Latin, in German, and in chemistry, as high school studies, are advised to arrange their work in general accordance with the scheme printed below, taking such additional elective work as may be found desirable. Students who enter with French instead of German, and without chemistry, are advised, in general, to follow the same scheme, with such modifications as may be necessary. In the first two years, the work is carried on largely in connection with classes in the Department of Literature, Science, and the Arts. In the latter part of the course, considerable time is left free for elective studies and for research.

First Year, First Semester:—Mathematics, French or German. English, General Chemistry, Pharmacy A.

First Year, Second Semester:—French or German, English, Botany B, General Chemistry.

Second Year, First Semester:—Qualitative Analysis,. Physics, Pharmacognosy C or Pharmacy B.

Second Year, Second Semester:—Quantitative Analysis, Pharmacy A, Pharmacognosy C.

Third Year, First Semester:—Organic Chemistry, Mineralogy, Pharmacy D.

Third Year, Second Semester:—Organic Analysis, Pharmacy C, elective studies.

Fourth Year, First Semester:—Synthetic Organic Chemistry. elective studies.

Fourth Year, Second Semester:—Pharmacology and Therapeutics D, Bacteriology, elective studies.

III. IN SELECTED STUDIES

Students not expecting to graduate can enter for selected studies at the beginning of the first semester (September 25, 1906), at the beginning of the second semester (February 11, 1907), and, for certain short courses in analytical chemistry and in physiological chemistry, at the time the courses begin.

For pharmaceutical purposes, the student who is limited to one year will do well to take the regular studies of the first year in the Two-Year Course as given on page 232. All the work of the school is open to students not candidates for a degree, so far as they are prepared to engage in it.

ELECTION AND REGISTRATION OF STUDIES

On or before the first Saturday of each semester, each student should determine upon his studies for that period, and register them in due form upon an "election blank" obtained from the Secretary of the Faculty.

In the two-year course the studies are mainly, though not wholly, the same for all students, and the order of succession is as given on page 232. When opportunity of choice is offered, the student should consult in advance with members of the Faculty.

If a student registered in the School of Pharmacy takes work in mathematics, physics, language, or other subjects, in the Department of Literature, Science, and the Arts, he must also register such studies on an "election blank" of that department countersigned by the Dean of the School of Pharmacy.

REQUIREMENTS FOR GRADUATION

[Experience in the business of pharmacy is not made a requirement for a degree.]

THE DEGREE OF PHARMACEUTICAL CHEMIST

The degree of Pharmaceutical Chemist is conferred upon students who have completed the prescribed work of the two-year course, as described on page 232, and have obtained credit for examination therein in the manner above stated.

THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACY

To obtain the recommendation of the Faculty for the degree of Bachelor of Science in Pharmacy, the student must secure *one hundred and twenty Hours of Credit.* The prescribed portion of this work is as follows, the figures in brackets denoting courses given in the Department of Literature, Science, and the Arts (compare pages 74 to 108):

In English:—Courses [1], [2].
In German:—For those who entered *without* German, Courses [1], [2]; for those who entered *with* German, four hours advanced German.
In French:—For those who entered *without* French, Courses [1], [2], or an equivalent; for those who entered *with* French, four hours advanced French.
In Mathematics:—Course [1].
In Physics:—Course [1].
In Chemistry:—Courses 1, 2, 3, 5, 7, 44.
In Mineralogy:—Course 1.
In Botany:—Course B.
In Pharmacognosy:—Courses C, E.
In Pharmacology and Therapeutics:—Courses D, F.
In Pharmacy:—Courses A, B, C.

From the other courses offered in the school, or in other departments of the University, the student, with the approval of the Faculty, must choose and complete enough, including those above prescribed, to make in all *one hundred and twenty* hours of credit.

GRADUATE COURSES

In Pharmacology, Bacteriology, and Physiological Chemistry.—Graduates of the school are given opportunity to pursue advanced work in these studies; and to those who satisfactorily complete elected work in them, a formal certificate will be granted by the Faculty. See pages 116 and 189 for courses in Bacteriology and Physiological Chemistry, and page 190 for courses in Pharmacology, which are recommended to graduate students.

For the Degree of Master of Science in Pharmacy.—Advanced courses of study are offered in the several branches taught in the school, suitable for graduates who wish to earn the degree of Master of Science in Pharmacy. This degree is conferred upon students who already hold the degree of Bachelor of Science in Pharmacy, and who have pursued for at least a year an approved course of graduate study, comprising a major subject and two minor subjects, and have satisfactorily passed examinations thereon.

FELLOWSHIPS

Frederick Stearns & Co. Fellowship.—The Stearns Fellowship in research has been maintained since 1895 by means of gifts made for this purpose by Messrs. Frederick Stearns & Company, of Detroit. The income of the fellowship at present is three hundred and fifty dollars a year. In 1905-1906 the research is on the chemistry of poison sumac. Appointments to the fellowship are made by the Board of Regents, on recommendation of the Faculty.

BOTANICAL GARDEN

In the botanical garden, near the building used by the School of Pharmacy, the principal orders of flowering plants are cultivated, together with the most important of the medicinal species. There are also experimental plantations, where drugs are grown for chemical and pharmacological investigation.

LIBRARY, BOOKS OF REFERENCE, AND TEXT-BOOKS

The school has an extensive library, the main portion of which is shelved with the General Library of the University (see page 28). It contains complete sets of the journals, the original repositories of the sciences related to pharmacy, as well as the current periodicals of the profession, encyclopædias, and hand-books of chemistry and pharmacy, and the latest works of value in study.

A working library, in a reading alcove of the chemical building, is provided with more than a thousand volumes for immediate reference, duplicates of those in the General Library. These books are in constant use by students in connection with their laboratory work, and in preparing for their recitations. Files of current numbers of the journals of chemistry and of pharmacy are also kept in the reading-room.

The reference and text-books in use in the school include the following: In General Chemistry, Holleman; in Qualitative Analysis, Prescott and Johnson; in Quantitative Analysis, Clowes and Colman's *Select Methods;* in Pharmacy, the U. S. *Pharmacopoeia,* Remington, Caspari; in Botany, Greenish, *Foods and Drugs;* in Pharmacology and Therapeutics, Cushny; in Organic Chemistry, Holleman, Remsen, Richter; in Organic Analysis, Prescott, Allen, Lyons.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year.

Matriculation Fee.—For Michigan students, *ten dollars;* for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *forty-five dollars;* for all others, *fifty-five dollars.*

Graduation Fee.—For all alike, *ten dollars.*

Laboratory Expenses.—These vary with the prudence and economy of the student, the average amount being about one dollar and twenty cents a week.

For additional information in regard to expenses, see pages 47 to 48.

Homœopathic Medical College

A special Announcement giving further information in regard to this college is published annually. For copies of this Announcement or for other information relating to the college, address Dr. Royal S. Copeland, Secretary of the Faculty, Ann Arbor, Michigan.

THE Homœopathic Medical College, established as a department of the University in 1875, offers superior advantages to students who desire thorough instruction in homœopathy. It has commodious buildings on the University campus and, across the street, a well-equipped hospital.

The college year extends from the Tuesday preceding the last Wednesday in September to the Thursday preceding the last Wednesday in June (September 25, 1906, to June 20, 1907).

REQUIREMENTS FOR ADMISSION

Every applicant for admission to the Homœopathic Medical College must be at least seventeen years of age, and must present to the Faculty satisfactory evidence of good moral character.

Women are admitted, as to all other departments of the University, on the same conditions as men.

Matriculates in a regular course in the Department of Literature, Science, and the Arts, graduates of literary colleges of good standing, graduates of approved diploma schools and of other high schools of equal standing, and those who hold certificates from the Board of Regents of the State of New York, are admitted without examination on presentation of proper evidence to the Secretary of the Faculty. All others must meet the requirements for admission and pass the examinations of the Michigan State Board of Registration in Medicine. These requirements are stated in units, a unit meaning a subject of study pursued through a school year, with not less than four recitation periods each week. Fifteen such units, taken from those enumerated below, are required for admission. Of these fifteen units, nine must be presented by all applicants, namely:

Composition and Rhetoric, 3 units.

Mathematics (Algebra, Plane Geometry, and Solid Geometry), 3 units.
Physics, 1 unit.
Latin, 2 units.

The remaining six units may be selected by the applicant from the following list. The subjects from which choice may be made, and the number of units which will be accepted in each subject, are as follows:

Greek, 2 units.
French, 2 units.
German, 2 units.
English Literature, 1 unit.
History, 2 units.
Physiography, 1 unit.
Chemistry, 1 unit.
Botany, 1 unit.
Zoology, 1 unit.
Biology, 1 unit.
Trigonometry, Plane, 1 unit.

Biology is defined as one half-year of botany and one half-year of zoology, hence it cannot be accepted from an applicant who offers at the same time either, or both, of those subjects.

SCOPE OF THE PREPARATORY WORK

The descriptive outline of the amount of preparation expected in each of the above named subjects is identical with that given for the Department of Literature, Science, and the Arts on page 50.

All matriculates who have any intention of practicing medicine in the State of Michigan must present their credentials to the Michigan State Board of Medical Examiners, as well as to the Faculty of the Department. The minimum legal requirements for admission to a medical school in this State are defined by statute.

Before admission to examination, every applicant is required to present to the Secretary of the Faculty the Treasurer's receipt for the payment of the matriculation fee and the annual fee. It will, therefore, be necessary for him to apply to the Steward at his office in University Hall, register his name as a student in the Homœopathic Medical College, and pay his fees to the Treasurer. In case of rejection, the money paid preliminary to examination will be refunded.

The applicant is advised to call in person upon the Dean or Secretary as soon as convenient after arrival in Ann Arbor.

ADMISSION TO ADVANCED STANDING

Persons who have studied medicine elsewhere may be admitted to advanced standing upon evidence of proficiency in the studies which have already been pursued by the class to which they seek admission.

Students in the Department of Literature, Science, and the Arts, who desire to study medicine in this college, can gain advanced standing by taking, as a part of their work in that department, courses practically identical with some of those prescribed for graduation in medicine. By making proper choice of elective studies, it is possible for a student to earn the two degrees, Bachelor of Arts and Doctor of Medicine, in six years (compare pages 129 and 193). Students desiring to take advantage of this opportunity for combining literary and professional work, should consult the Dean of the college, and should consult frequently, after the first year of residence in the University, with a committee appointed to consider questions arising in this connection. This committee consists at present of Professors HINSDALE and COPELAND.

COURSES OF INSTRUCTION

DESCRIPTION OF COURSES

A. SUBJECTS UNDER THE IMMEDIATE CHARGE OF MEMBERS OF THE FACULTY OF THE HOMŒOPATHIC MEDICAL COLLEGE.

Surgery.—A complete course of lectures on minor surgery and bandaging is given to the students of the first year.

A complete course of lectures on operative surgery, fractures, and dislocations, and on the principles of surgery, is given to students of the third and fourth years.

Candidates for graduation are required to demonstrate their knowledge of operative surgery by operating on the cadaver, a sufficient number of subjects being provided by the authorities without expense to the class.

Students are assigned cases to diagnose and present to the class; and, under proper direction, are allowed to make the necessary preparations for operations, and to assist, when assistance is required. Advanced students, under the immediate supervision of the surgeon in charge, are also allowed to treat patients that have been operated upon. Special effort is made to remove the criticism against practitioners of Homœopathy that they have no knowledge of surgery.

Materia Medica and Therapeutics.—Materia medica is taught as a natural science. Three lectures are given weekly, based as far as possible on studies of the original provings, paying special attention to the genius of each drug, its characteristics, and its relationship to other drugs. The physiological action of drugs, as ordinarily understood, is duly considered.

Systematic instruction in the principles and philosophy of Homœopathy is a natural feature. The course is given to the whole body of students, beginners as well as the more advanced, in order to fix in their minds the underlying principles of the science of homœopathic practice.

A thorough laboratory course in drug proving is a special feature of this college. Students are required to do a certain amount of original work in drug pathogenesy under the supervision of the professor of materia medica. A course in homœopathic pharmacology is also given.

Pharmacy and Pharmacology.—Each student is required to prepare from the crude material, ready for use, a series of remedies. A practical course in field medical botany is given by a demonstrator who goes with the class to places where native medicinal plants are found growing in their natural condition. The plants are gathered and prepared for making mother tinctures and for trituration.

The Principles of Medicine.—The principles of medicine are taught in a separate course setting forth the scientific explanation of disease and the principles upon which a system of cure must be constructed. Attention is given to historic medicine and the various systems that have been in practice as a means of attempted cure. In the medical clinic the idea is never lost sight of that the function of the physician is to cure the sick, and that to accomplish this end accurate prescribing is of the highest importance.

Theory and Practice.—The instruction in theory and practice is didactic and clinical. The subject is divided into separate courses covering all the ground, both general and special, with which a physician in general practice must be familiar. In this connection a special course in diseases peculiar to childhood, and in the feeding of infants and invalids, is given. The aim is to make the student, by applying his knowledge of pathology, a good diagnostician, and, by his knowledge of materia medica, a good prescriber. In the clinics especial attention is given to dietetics and other regimenal means of treatment.

Medical and Physical Diagnosis.—Diagnosis is taught as a separate branch, with the use of text-books supplemented by lectures and practical demonstrations. This subject occupies one hour a week throughout an entire year.

Obstetrics and Gynaecology.—The course of study in these branches is so arranged that separate lectures are given to the several classes in a graded course. Students of the first year are drilled in the fundamental branches of gynæcology, and are taught the use of instruments, the various methods of making gynæcological examinations, etc. With the third year the student enters upon both didactic and clinical work. In the last year of the course lectures are delivered upon special subjects, and the senior students are required to make physical and local examinations in the sub-clinics of this department, thus familiarizing themselves with the various methods of practicing touch, palpation, obstetric ausculation, etc., and utilizing to the best possible advantage the many patients availing themselves of this special department of the clinic. Cases in obstetrics are assigned to each senior for his especial delivery and personal attendance.

Ophthalmology, Otology, and Laryngology.—Regular lectures on these important specialties, amply illustrated from the abundance of clinical material at the disposal of the Faculty, are given in the third and fourth years. The eye-and-ear, nose, and throat clinic forms one of the most interesting features of the clinical work, and affords the class every facility for a thorough, practical study of all the diseases of these organs that come under the observation of the physician. Students have cases assigned them for dressing and treatment, and thus acquire practical skill and knowledge in diagnosis, in the use of the various instruments, and in the correction of errors of refraction.

Mental Diseases.—A special course of lectures on mental diseases is given by Dr. OSCAR R. LONG, Superintendent of the State Asylum.

Nervous Diseases.—Every effort is used to make this department of study as complete as possible. There is an abundance of clinical material to demonstrate all the more frequent forms of nervous diseases as well as many of the rarer ones. A special course of lectures on this subject is given by Dr. WILLIAM A. POLGLASE, Superintendent of the Home for the Feeble-Minded and Epileptic.

Diseases of Children.—A full course of instruction is given in this subject.

Toxicology.—Doctor BURRETT gives a course of two hours a week upon Toxicology to the freshmen. The class is given a practical knowledge of the different poisons and their antidotes. Especial attention is given to the physiological action of drugs and chemicals. The relation existing between drug action in producing abnormal conditions and diseases as they arise from natural or idiopathic causes is constantly kept before the student. This is a new course and a very important one. It really includes very much more than the subject of poisons and antidotes. Whenever a medico-legal opinion is pertinent, it is presented. Illustrations of a practical nature are introduced and experiments on animals employed.

Later in the year other members of the Faculty will lecture to the beginners upon the elementary principles of their several lines of work.

Drug Proving.—A practical laboratory in Pathogenetics has been instituted in the college with a special director in charge. Volunteer students are used, being accepted with reference to their physical merit and put through severe tests under the constant observation of the director. A diet-table is provided for the provers, free of cost to themselves, that entire control may be had over them while they are testing drugs.

Demonstration Courses in the Specialties.—Before graduation each student is required to do actual work in demonstrating his medical and surgical skill. By operating upon the cadaver and upon animals; by manipulation of manikins and models; by actual dressing of wounds and bandaging; by thorough drill in the practical use of the ophthalmoscope, the laryngoscope, the test case, and in spectacle fitting; by the use of the microscope and the spectroscope; by the making of tinctures and dilutions; by bedside demonstrations and examinations; by actual prescribing; by these methods the students become practical, and are prepared to make successful physicians. The classes are divided into sections, and each individual has his share of actual work. For these demonstration courses there is no extra expense. Students also assist at operations and take turns in ward visiting. It is believed that the advantages offered for the practical application of theoretical knowledge are unsurpassed in this country. Students come in personal contact with the members of the Faculty, and profit accordingly.

ORDER OF INSTRUCTION

The following summary shows the arrangement of the instruction in the subjects named for the several years and semesters of the course.

SURGERY

1. Lectures and Recitations. Once a week. First and second years. Professor D. T. SMITH.
2. Lectures and Recitations. Three times a week. Third and fourth years. Professor D. T. SMITH.
3. Surgical clinic. Twice a week. Third and fourth years. Professor D. T. SMITH.

PATHOLOGY

1. Lectures and Recitations. Twice a week. Second and third years. Professor HINSDALE.

PHARMACY

1. Lectures and Recitations. Once a week, second semester. First year. Professor DEWEY.

THEORY AND PRACTICE AND DIAGNOSIS

1. Principles of Medicine. Lectures and recitations. Once a week. First year. Professor HINSDALE.
2. Theory and Practice. Lectures and recitations. Once a week. Second year. Professor HINSDALE.
3. Medical Diagnosis. Lectures and recitations. Three times a week. Third and fourth years. Professor HINSDALE.
4. General Medicine. Clinical Course. Three times a week. Third and fourth years. Professor HINSDALE.

MATERIA MEDICA

1. Materia Medica. Lectures and recitations. Three times a week. Third and fourth years. Professor DEWEY.
2. Principles of Homœopathy. Lectures and recitations. Once a week. Fourth year. Professor DEWEY.

MENTAL AND NERVOUS DISEASES

1. Lectures and Clinics. Once a week. Third and fourth years. Professor DEWEY, Dr. LONG, and Dr. POLGLASE.

OPHTHALMOLOGY, LARYNGOLOGY, AND OTOLOGY

1. Lectures and Recitations. Once a week. Third year. Professor COPELAND.
2. Eye, Ear, Nose, and Throat Clinic. Twice a week. Third and fourth years. Professor COPELAND.
3. Ophthalmology. Lectures and recitations. Twice a week. Fourth year. Professor COPELAND.
4. Otology. Lectures and recitations. Once a week, second semester. Fourth year. Professor COPELAND.
5. Laryngology. Lectures and recitations. Once a week, first semester. Fourth year. Professor COPELAND.

GYNÆCOLOGY AND OBSTETRICS

1. Minor Gynæcology. Lectures and recitations. Once a week. Third year. Professor KINYON.
2. Major Gynæcology. Lectures and recitations. Twice a week. Third and fourth years. Professor KINYON.
3. Obstetrics. Lectures and recitations. Twice a week. Third and fourth years. Professor KINYON.
4. Gynæcology Clinic. Twice a week. Third and fourth years. Professor KINYON.

B. SUBJECTS PURSUED IN CONNECTION WITH CLASSES IN THE DEPARTMENT OF MEDICINE AND SURGERY

Chemistry (General, Organic, Physiological); Physics; Anatomy; Osteology; Histology; Embryology; Physiology; Bacteriology; Hygiene; Medical Jurisprudence.—The instruction in these subjects is given in connection with classes in the Department of Medicine and Surgery. Its nature and extent, and its arrangement for the several years and semesters of the course, may be seen by reference to pages 187 to 192.

INSTRUCTION FOR WOMEN

The course of instruction for women is in all respects equal to that for men. Practical anatomy is pursued by the two sexes in separate rooms; but in the lectures, in public clinics, in the laboratories, and in various class exercises, it is found that both sexes may attend with propriety at the same time.

EXAMINATIONS

At the end of each semester examinations (written, oral, or both written and oral) are held on all subjects taught during the semester, and each student's grade is entered upon the records of the Faculty. Students *"conditioned"* cannot apply for another examination in the same subject until the close of the next course or semester, except that a student conditioned at the close of the college year may ask for another examination in the first two weeks of the following year. Students reported *"not passed"* are required to take the course over again before applying for another examination.

REQUIREMENTS FOR GRADUATION

To be admitted to the degree of Doctor of Medicine, a student must be twenty-one years of age and possess a good moral character. He must have completed the required courses in laboratory work, and have passed satisfactory examinations on all the required studies included in the full course of instruction. He must have been engaged in the study of medicine for the period of four years, the last of which must have been in this college.

GRADUATE COURSES

Medical science has made such rapid progress during recent years that graduates of a short time ago feel the necessity of returning to the medical centres for further light in the modern advances. The laboratories and special courses of this college offer superior advantages to graduates.

The nature of the work arranged for graduate students in hygiene, bacteriology, electrotherapeutics, pathology, physiology, histology, chemistry, and anatomy may be learned by a reference to page 194.

In the practical branches, such as materia medica, physical diagnosis, surgery, ophthalmology, otology, laryngology, obstetrics, and gynæcology, graduate instruction may be had, by special arrangement with the professors in charge, in connection with the demonstration courses given to students in the last two years of their course.

SPECIAL LECTURE AND CLINICAL COURSES FOR GRADUATES AND PRACTITIONERS

During the year, at such times as may be most convenient, short courses of special lectures are given by members of the Faculty and other persons on a variety of subjects interesting to graduates and to physicians in active practice; and in this connection there is also offered a special practitioner's clinical course.

The fee for the lecture course is ***ten dollars,*** and a certificate stating the amount of work accomplished will be given all those who complete the course, and who already hold the degree of M.D. No fee is charged, and no certificate is given those who attend the clinics alone.

FACILITIES FOR INSTRUCTION

Museums and Laboratories.—The museums of anatomy and materia medica, comprising thousands of specimens, models, and charts, afford the best means attainable for the close study of anatomy, physiology, and pathology. The general and special cabinets of the University, containing about 255,000 specimens, are also open freely to all students. (Compare pages 30 to 34.) The facilities for the study of chemistry, afforded by the chemical laboratory, are not excelled in any medical college in this country, and the arrangements for the laboratory work are such that medical students, in classes, and working under the direction of the professors in charge, receive practical instruction in the courses in qualitative chemistry and in the analysis of urine, a knowledge of which has become absolutely indispensable to the successful physician. The histological laboratory, amply supplied with microscopes, sphygmographs, stereopticon, etc., offers rare facilities for the prosecution of practical work in experimental physiology and histology. The hygienic and anatomical laboratories are models of beauty and convenience, affording facilities for instruction in hygiene and in practical anatomy unsurpassed, if equalled, by those of any other institution of learning in the United States. For a more full description of the laboratories of the University used by homœopathic students in common with students of other departments, see pages 35 to 39 and 195 to 200.

Pathogenetic Laboratory.—A laboratory of experimental pathogenesy, in the Homœopathic Building, is equipped with the necessary apparatus for experimentation with medicinal substances on the healthy human body. This is a special feature of this college. Provings are made, and each student is required to do a certain amount of original work and research in the pathogenic field. A complete course in homœopathic pharmaceutics is also given in this laboratory.

Libraries.—The General Library of the University (see page 28) is open to the free use of students. Important additions have recently been made to the collection of works on homœopathy. A large number of homœopathic publications, domestic and foreign, are regularly received and kept on file in the library reading-room.

Other Facilities.—Students in the Homœopathic College have the privilege of attending the scientific and philosophical lectures, collateral to medicine, given in the Department of Literature, Science, and the Arts. For a description of the gymnasiums, and the conditions on which they are open to students, see page 41.

THE UNIVERSITY HOSPITAL (HOMŒOPATHIC)

The University Hospital (Homœopathic) stands a little to the northeast of the University campus. It has a frontage of two hundred feet, and the ground plan resembles, in general, the letter T. Each end of the top line of the letter represents a ward, and the base is occupied by the operating and the clinic rooms. There are, in all, six wards, and about twenty private rooms. The building extends back over the brow of a hill, and a rear view shows five stories in the clear. The general wards are planned each for sixteen beds. Some parlors, one in front of each ward, are available as sitting-rooms for patients able to leave their beds. The plumbing is elaborate and of thorough construction. The building is heated by steam, and the ventilating system is guaranteed to change the air in the entire building every five minutes.

There are separate wards for children and for obstetrical patients. The facilities for treating obstetrical cases have been largely increased. During the past year each senior student attended twenty cases of confinement.

The hospital is furnished with all modern electrical appliances, and, under direction, skilled attendants apply electrical treatment. The junior and senior students receive special instruction in this line.

Surgical, medical, gynæcological, neurological, and ophthalmological clinics are held daily in the spacious amphitheatre. Examinations of patients are made by the professors in charge, and by students under the direction of professors; prescriptions are given; and surgical operations are performed, in the presence of the class. The several clinics are held on separate days, of which the profession throughout the State will be notified.

Much attention is paid to physical diagnosis, and the abundance of clinical material furnishes many interesting cases. Students are required to take the history of patients, and, under proper supervision, make personal examination and prescribe remedies. It is the aim of the Faculty to make clinical instruction systematic and thorough.

The hospital is kept open for patients during the college year, and also in the summer vacation. The expenses to patients are only for their board, for unusual appliances or special nursing, and for medicines, the services of the Faculty being rendered gratuitously to those made available for clinical instruction.

Patients who desire to enter the hospital are requested to write to the medical superintendent to ascertain if there is room for their accommodation, and to obtain a circular giving more fully the rules governing admission.

Training School for Nurses.—In connection with the Hospital there is a nurses' home and a training school for nurses under the charge of a competent and experienced principal. The term of study and service extends through three years, at the expiration of which time those who have proved trustworthy are granted certificates of graduation. For further information in regard to this school, application may be made to Dr. ROYAL S. COPELAND, Ann Arbor, Michigan.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance, and no student can select his seat until after such payment. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year.

Matriculation Fee.—For Michigan students, *ten dollars;* for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *forty-five dollars;* for all others, *fifty-five dollars.*

Graduation Fee.—For all alike, *ten dollars.*

Graduate Courses.—A fee of *ten dollars* is charged graduate students for each course taken. Graduate students who pursue laboratory courses are also required to pay the ordinary laboratory expenses of such courses.

Laboratory Expenses.—In the laboratories, the students pay for the material used, and the expenses vary somewhat with the care and economy practiced. The required laboratory courses cost approximately as follows:

Anatomy	$10 00
Chemistry	15 00
Bacteriology	15 00
Physiological Chemistry	15 00
Histology	7 00
Pathological Histology	10 00

The total amount of fees paid to the University during the whole four years' course, for matriculation, incidental expenses, materials used, and diploma, is, for Michigan students, about $270.00; and for others, about $325.00, varying a little with the student's actual laboratory expenses.

For additional information in regard to expenses, see pages 47 to 48.

Students arriving in Ann Arbor, and desiring further information, should apply at the office of the Faculty, in the Homœopathic College, North University Avenue. The office will be open daily during the latter part of September, and members of the Faculty, or other persons competent to give information, will be in attendance.

College of Dental Surgery

A special Announcement giving further information in regard to this college is published annually. For copies of this Announcement, or for other information relating to the college, address The Dental College, Ann Arbor, Michigan.

THE College of Dental Surgery was established as a department of the University in 1875. The college year extends from the Tuesday preceding the last Wednesday in September to the Thursday preceding the last Wednesday in June (September 25, 1906, to June 20, 1907). The lectures close about June 8 in order to allow time for the final examinations before Commencement.

REQUIREMENTS FOR ADMISSION

Applicants for admission must be at least eighteen years of age, and must present to the Faculty satisfactory evidence of good moral character. This should be in the form of a letter from a reputable dental or medical practitioner in the place from which the applicant comes.

Matriculates in the other scientific departments of the University, and graduates of recognized colleges, academies, or high schools, are admitted without further examination on presentation of proper diploma or certificate. Commercial and English diplomas are accepted only so far as they include the studies indicated in the scheme for examination as printed below. Applicants are requested to bring, or send to the Secretary of the Faculty, a statement from the superintendent of the school from which the diploma was obtained, naming the subjects studied and the credit given for each study. Blank forms on which to make such statement are furnished on application to Dr. N. S. HOFF, Secretary of the Dental Faculty.

Other applicants are examined as to their previous education and their fitness to enter the course. The subjects of examination are as follows:

English.—The purpose of the examination is to test the applicant's ability to use the English language correctly. To this end he will be asked to write an essay of at least three hundred words, upon some subject assigned to him at the examination. As preparation for this requirement, regular practice in writing is recommended. The student should prepare numerous written exercises so selected as to give proper training in the several varieties of discourse. This requirement is intended to include the grammar, rhetoric, and essay writing of a good high school course.

History.—Myers's *General History,* and McLaughlin's *History of the American Nation,* or equivalents.

Mathematics.—ARITHMETIC.—Fundamental rules, fractions (common and decimal), denominate numbers, percentage, proportion, involution and evolution, and the metric system of weights and measures. ALGEBRA.—Fundamental rules, fractions, equations of the first degree, containing two or more unknown quantities. GEOMETRY.—Plane geometry, as given in Beman and Smith's *New Plane and Solid Geometry,* or an equivalent.

Physics.—An amount represented by Carhart and Chute's *Elements of Physics.*

Latin.—Jones's *First Latin Book,* or an equivalent amount in any other text-book, and four books of Caesar's *Gallic War.* A year of study in either German or French, or a year of manual training or dental office experience, may be substituted for the second year's study in Latin.

Chemistry, Botany, Zoology, Physical Geography, Physiology, and Manual Training.—The applicant must offer *three* of these subjects. The requirements in each subject are as follows:

GENERAL CHEMISTRY.—The requirement is intended to cover one year's work. As a text-book, Remsen's *Introduction to the Study of Chemistry,* is recommended. The text should be accompanied by laboratory work, if possible.

BOTANY.—The elements of vegetable morphology and physiology as given in Spalding's *Introduction to Botany.*

ZOOLOGY.—Packard's *Zoology,* briefer course.

PHYSICAL GEOGRAPHY.—Tarr's *Elementary Physical Geography,* especially chapters 9 to 21, inclusive, or an equivalent.

PHYSIOLOGY.—Martin's *The Human Body.*

Time of Examination

The entrance examination will be held Monday, September 24, 1906, beginning at 10 A. M. Applicants are expected to be present at that time, but to provide for cases in which it is impossible for the applicant to be present, other examinations will be held at such times as may be determined by the Faculty.

Before admission to the examination, every student is required to present to the Dean of the Faculty the Treasurer's receipt for the payment of the matriculation fee and the annual fee. It will therefore be necessary for the candidate to apply first to the Secretary of the University at his office in University Hall, register his name as a student in the College of Dental Surgery, and pay his fees to the Treasurer. In case of rejection the money paid preliminary to examination will be refunded.

In order to receive credit for a full course, students must enter within ten days after the opening of the college year. It is very important that first-year students be present promptly at the opening of the year.

ADMISSION TO ADVANCED STANDING

Persons qualified for admission to this college who have studied dentistry in other recognized schools for at least one year, may be admitted to advanced standing, after passing a satisfactory examination in the studies which have already been pursued by the class to which they seek admission.

ASSIGNMENT OF SEATS

Students are assigned seats in the lecture room, places in the dental laboratory, and chairs in the operating room, in the order in which they matriculate and register; and each student is expected to occupy the places so selected during the session.

COURSE OF INSTRUCTION

In the arrangement of the course, the aim has been three-fold: to accommodate and benefit students who desire a thorough dental education, to meet the expectation of the dental profession, and to serve the best interests of the public. To this end a graded course of study is combined with a repetition of such lectures only as will avoid the confusion incident to the simultaneous presentation of so many parts of the general subject. The aim is to dismiss no subject until its relations to other parts of the course can be thoroughly appreciated.

*SCHEDULE OF STUDIES**

FIRST YEAR

Subjects	FIRST SEMESTER	*Hours*
Embryology and Histology		51
Osteology,		34
General Chemistry,		85
Prosthetic Technics,		500
Histology (laboratory),		160

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*The column of hours gives the total number of hours of work required for each semester. The actual teaching weeks, exclusive of vacations and holidays, are 34 for the session, or 17 for each semester.

Subjects SECOND SEMESTER	*Hours*
Organic Chemistry,	85
Descriptive and Regional Anatomy,	34
Prosthetic Technics,	340
Qualitative Chemistry,	160

SECOND YEAR

Subjects FIRST SEMESTER	*Hours*
Bacteriology,	51
Prosthodontia,	51
Operative Technics,	160
Bacteriology (laboratory),	160
Crown and Bridge Technics,	160

Subjects SECOND SEMESTER	*Hours*
Physiology,	85
Comparative Odontology,	51
Prosthetic Clinic,	160
Dissection,	160
Operative Clinic,	340
Cleft Palate and Orthopedic Technics,	120

THIRD YEAR

FIRST SEMESTER

Subjects	*Hours*
Dental Therapeutics,	34
Oral Surgery,	51
Orthodontia,	17
Crown and Bridge Lectures,	17
Orthodontia Technics,	34
Prosthodontia and Orthodontia Clinic,	160
Porcelain Technics,	51
Operative Dentistry, Lectures,	34
Operative Clinic,	340

SECOND SEMESTER

Subjects	*Hours*
Dental Therapeutics,	34
Oral Surgery,	51
Crown and Bridge work,	17
Metallurgy,	17
Bibliography and Ethics,	17
Pathology and Surgery Laboratory,	60
Prosthodontia Clinic,	160
Operative Dentistry,	17
Operative Clinic,	340

DESCRIPTION OF COURSES

Anatomy.—Anatomy is studied didactically and practically. A full course in general osteology is taken with the medical classes in the Department of Medicine and Surgery (page 188). A special course of lectures is given to students of dentistry on the anatomy of the head, face, neck, thorax, abdomen, and their contained viscera, and on the nervous and vascular systems. In practical anatomy the same regions are dissected, independent of the medical classes, though under the same demonstrator. The most careful consideration is given to the parts of immediate concern to dental students. The work in anatomy also includes a course of lectures on comparative dental anatomy. The large odontological museum, the gift of the late Professor Ford, which has recently been increased by a large gift from Drs. William and Louis James Mitchell, of London, England, offers exceptional opportunities for this work. There is also a course in human dental anatomy, which is in the nature of a series of quiz and laboratory exercises on the technical anatomy of the face and mouth; exercises in cutting and studying the structures of human teeth in sections; and an inspection and discussion of the characteristic differences in animal dentition.

Embryology and Histology.—In general embryology and histology a combined lecture and laboratory course is given, in which the student not only acquires a knowledge of the principal structures and tissues of the animal body, but also becomes familiar with the manipulation of the microscope and the preparation of tissues.

Chemistry.—In chemistry students are required to attend separate lecture courses on general and organic chemistry, and also to take a laboratory course in analytical chemistry.

Physiology.—A full course of lectures in physiology is taken in connection with the classes in the Department of Medicine and Surgery.

Bacteriology.—The course in bacteriology comprises lectures and laboratory work. In the laboratory the student becomes acquainted with technical methods and acquires experience in the biological study of the micro-organisms which are of especial interest to the dentist.

Materia Medica and Therapeutics.—In dental materia medica and therapeutics a special course of lectures embraces the history, pharmacy, pharmacology, and therapeutics of all drugs and remedies used in the treatment of diseases occurring in dental practice, and includes a discussion of pain obtundents, local and general anæsthetics, and prophylactic remedies.

Pathology and Surgery.—In dental pathology and surgery a course of lectures and a laboratory course is given, which embraces a discussion of the various diseases which affect the teeth and mouth, and their etiology and treatment. Special attention is given to diseases which pertain especially to the practice of dentistry. Illustrative cases are shown and operated on in the presence of the class. All instruments, appliances, and methods that are of interest or value in this connection are exhibited and discussed.

Oral Surgery.—A course of lectures on clinical oral surgery, supplemented by a laboratory course on the cadaver and manikins, embraces a consideration of diseases of the mouth and associated parts that are of special interest to the dentist, but which lie more within the province of the general surgeon for treatment. Illustrative cases are exhibited and discussed, and operations are performed before the class in a clinic once each week.

Operative Dentistry.—In operative dentistry the instruction is both didactic and practical. In the didactic course, which is preceded by a course in operative technics, a full presentation of approved methods, appliances, and materials used in filling teeth is given, together with the principles which form the basis of practice. This instruction is supplemented by practical instruction in the clinical operating room, which is under the personal supervision of the professor of operative and clinical dentistry and his assistants. Here each third-year student is required to spend twenty hours a week at the chair, operating for patients, and in this way verifying the principles taught and obtaining such manipulative training as will result in desirable preparation for skillful practice.

Prosthetic Dentistry.—In prosthetic dentistry the instruction is both didactic and practical. In the lectures the principles involved in the construction and application of artificial dentures, crowns and bridges, regulating devices, and continuous-gum and cleft palate work are fully discussed, and such methods as have proved valuable and worthy are advocated. In the practical department each student in the second year has opportunity and is required to construct and adapt to the mouth practical dentures for the restoration of lost dental organs.

The instruction in prosthetic technics embraces experimental construction of the various artificial dentures used to restore lost dental organs. It consists in taking impressions, making plaster models from impressions, making dies, swedging plates, grinding and adjusting teeth, soldering and finishing, vulcanizing and finishing plates, pouring and finishing cast metal plates, and constructing various styles of crowns, bridges, and regulating devices, with such instruction as will familiarize the student with the most approved methods of doing such work.

EXAMINATIONS

At the end of each semester examinations are held on all subjects taught during the semester. Students *conditioned* must remove the condition during the semester following the one in which it was received. No student who, at the end of a year, has failed to pass in two of the required subjects in his course is admitted to an advanced class during the first semester of the following year.

REQUIREMENTS FOR GRADUATION*

To be admitted to the degree of Doctor of Dental Surgery, the candidate must be twenty-one years of age, must possess a good moral character, must have devoted three years to the study of dentistry, and have passed all the examinations required in his course. Unless admitted to advanced standing, he must have attended three full years in this college, and he is advised to attend these consecutively.

GRADUATE COURSE

The purpose of the graduate course is to meet the requests of students for further opportunity to pursue the scientific branches of the regular college curriculum, and also to meet an often expressed wish on the part of practitioners to pursue some special scientific investigation, which has been entered upon at home, with limited resources in the way of books of reference, laboratory facilities, and apparatus, and without the aid of instructors or advisers in associated sciences.

The graduate course is open only to graduates of this college who have made marked records in their undergraduate work, and to graduates of this and other colleges who have had at least two years of continuous practice since graduation, and who have published original articles of scientific value, which show a capacity on their part for continuing such work with credit.

The course of study is independent of, and additional to, the regular undergraduate work, and embraces only such topics as will aid in training men to carry on scientific researches in subjects associated with practical dentistry, or with dentistry in its scientific aspect.

The time required to complete the course prescribed for the advanced degree depends upon the diligence and capacity of the student, but at least a year's work is required in all cases.

Graduate students are required to pay the same annual fee as undergraduates, and those who have not previously been matriculated in this University are also required to pay the usual matriculation fee. The expenses of the laboratory courses vary according to the character of the work taken.

The degree of Doctor of Dental Science (D.D.Sc.) is conferred only upon graduate students who complete the prescribed course as outlined above, or a course embracing an equivalent amount of scientific work.

For the past two years a course of two weeks instruction in porcelain work has been given to practitioners. No certificate or degree is conferred for this course. The course will be given the first two weeks of June this year.

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*See footnote on page 251.

FACILITIES FOR INSTRUCTION

For general information relating to the University libraries, museums, laboratories, hospitals, and gymnasiums, see pages 28 to 41, 195 to 201, and 245 to 247.

Among the facilities of special interest to students of dentistry the following may be mentioned:

FORD-MITCHELL MUSEUM

The dental museum is supplied with a large number of anatomical, physiological, pathological, and histological preparations, including a series illustrating dentition from infancy to the completion of the process of the adult, and the normal changes through life to old age, and also illustrative of the dental and osseous tissues. Preparations, natural and artificial, greatly facilitate the study of the nervous and vascular systems. The design is to make available every practicable appliance in this direction.

The odontological collection is probably the largest and best of its kind to be found in any dental college in the world. It comprises the entire set of crania and odontological specimens presented by the late Professor Ford, and has been recently more than doubled in size and in value by the gift of the private collection of Drs. William and Louis James Mitchell, of London, England, who have spent many years and large sums of money in bringing together material from all quarters of the world. Additions to this collection are desired, and gifts of material illustrating comparative odontology and typical or abnormal human teeth, will be gratefully received.

TAFT LIBRARY

A library of dental science (named in honor of the late Professor Jonathan Taft), containing almost every known work on this specialty, including an almost complete file of every dental journal published, is shelved in the dental building, where it is accessible to all students. A finely appointed reading room is connected with the library. Nineteen dental journals are regularly received.

TECHNIC LABORATORY

This laboratory has been refitted recently. It contains furnaces, soldering tables, rolling mill, and electric lathes; appliances for the various manipulations of prosthetic dentistry, such as the construction of artificial dentures in gold, continuous gum, silver, aluminum, rubber, and other bases; appliances for the regulation of teeth and for the mechanical treatment of oral deformities; and facilities for the manufacture of instruments. The laboratory has accommodations for two hundred students at a time. Attention is given to the manipulation and management of the precious metals with reference to their use for dental purposes.

Each student is furnished a bench containing a cupboard with lock and key for the instruments that he has to furnish for the prosecution of his work. If a student has any of these instruments it would be well to bring them; but it is more desirable to defer purchasing until the advice of the instructor in the college has been secured, as it is desirable that a complete and uniform outfit should be in the possession of each student. This outfit costs about forty dollars, and if taken care of will be a permanent investment, as the tools will all be necessary and useful in practice. These tools must be purchased at the beginning of the course, as they are required during the first as well as during the succeeding years.

DENTAL OPERATING ROOMS

The operating rooms are large, well-lighted, heated, and ventilated. The main room contains fifty modern operating chairs, with extension brackets and movable tables with drawers for instruments. Other rooms contain chairs and apparatus for the administration of anæsthetics, for the extraction of teeth, and for other purposes. Each student is required to supply himself with a dental engine and a full set of operating instruments; these must be purchased with the advice of the instructor, and will cost about one hundred dollars. Like the laboratory tools, they will be necessary to begin practice, and if carefully used will last many years; consequently care should be exercised in their purchase. They need not be purchased until the last quarter of the second year.

COURSES IN OTHER DEPARTMENTS

Those who can command the time, may also avail themselves of numerous lectures, or pursue elective studies, in the Department of Literature, Science, and the Arts (page 49); or may attend special lectures in the Department of Medicine and Surgery (page 187), such as those on gynæcology and the diseases of children, or on other subjects that are important to the practicing dentist.

TEXT-BOOKS

A list of the text-books used and recommended is given in the special Announcement of the college, copies of which will be sent on request.

FEES AND EXPENSES

The Matriculation Fee and the Annual Fee must be paid in advance, and no seat will be assigned to a student until after such payment. Except by order of the Board of Regents, no portion of these fees can be refunded to students who leave the University during the academic year.

Matriculation Fee.—For Michigan students, *ten dollars;* for all others, *twenty-five dollars.*

Annual Fee.—For Michigan students, *forty-five dollars;* for all others, *fifty-five dollars.*

Graduation Fee.—For all alike, *ten dollars.*

Laboratory Expenses.—*Chemical Laboratory.*—Students are required to pay for the materials and apparatus consumed by them. The average expense for the required course is about *ten dollars. Histological Laboratory.*—A charge of *seven dollars* is made for material used in this laboratory. *Bacteriological Laboratory.*—A charge of *fifteen dollars* is made for the expense of the course in this laboratory. *Anatomical Laboratory.*—A charge of *ten dollars* is made for material used in dissecting. *Operative Surgery.*—The fee for this course is *five dollars.*

Incidental Expenses.—A charge of *three dollars* a year is made against each student to cover the cost of supplies and equipment provided by the University. The expenses for incidentals, teeth, rubber, and other material needed in the technical courses, but not supplied by the University, are about *fifteen dollars.*

The average total expenses of a student of dentistry, including University fees, board, books, etc., for the college year of nine months, are three hundred dollars, and upwards, depending on individual habits and tastes. The cost of instruments and tools, amounting to about one hundred and fifty dollars for the entire course, is not included in the above estimate, for the reason that it is not properly a college expenditure, the tools being available and necessary in future practice.

To avoid embarrassment, new students should come prepared to spend during the first week about $125, if residents of Michigan, or $150, if not residents of Michigan, for University fees, books, and tools.

Additional information in regard to expenses may be found on pages 47 to 48.

Summer Session

A special Announcement of the Summer Session, containing further particulars than are here given in regard to the courses of instruction, etc., is published annually. Copies of this Announcement can be had by addressing Mr. James H. Wade, Secretary of the University.

In the Summer Session of the University courses of instruction are offered, at present, in the Department of Literature, Science, and the Arts, the Department of Engineering, the Department of Medicine and Surgery, and the Department of Law. The work of the session has been recently organized with a view of coordinating more closely the courses conducted in the several departments and of giving the student a wider range of choice than has been found practicable in previous years.

In the Department of Literature, Science, and the Arts, and the Department of Engineering, the general supervision of the work is in charge of a committee appointed by the Board of Regents. The chairman and secretary of this committee are Professor JOHN O. REED and Assistant Professor JOHN R. EFFINGER. In the Department of Medicine and Surgery and in the Department of Law the work is under the direction of the Dean and the Secretary of the department.

In the summer of 1906 the session will open on Monday, June 25, and continue for six weeks, except in the Department of Law, where it will continue for eight weeks.

ADMISSION AND REGISTRATION

There are no stated requirements for admission to the Summer Session, but persons desiring credit for work done must satisfy the conditions for entrance to the University before such credit can be counted towards a degree. A record is kept, however, of all work of university grade done by students, and such work may be applied towards graduation at any subsequent time when the student becomes a candidate for a degree. The courses of study offered are open to all persons who are qualified to pursue them to advantage and who conform to the general regulations of the session.

Each student is required to register in the department in which the major part of his work belongs, and to pay in advance the tuition fees prescribed in that department. In case he also takes work in another department he is required to pay an additional tuition fee of five dollars for each course taken in such other department, but in no case will a charge of more than twenty-five dollars be made for tuition.

FEES AND EXPENSES

In the Department of Literature, Science, and the Arts, the uniform charge for tuition for the session is fifteen dollars, irrespective of the number of courses taken in the department.

In the Department of Engineering an instrument fee of ten dollars is required of all students who take the summer field work in surveying. The other courses prescribed for graduation in the department, that are given during the summer session, are open without extra charge for tuition to students regularly enrolled in the department.

In the Department of Medicine and Surgery, the fee for a clinical course, taken by itself, is twenty-five dollars. For all the other courses, the tuition fee is fifteen dollars.

In the Department of Law, the fee for a single course, taken by itself, is ten dollars; but students who take three or more courses in this department are held to the payment of twenty-five dollars only for the session.

Laboratory and demonstration fees, when required, are to be paid in addition to the regular tuition fee.

For additional information in regard to expenses see pages 47 to 48.

COURSES OF INSTRUCTION

The courses of instruction are arranged to meet the wants of several classes of students. In a general way, they may be classified as preparatory courses, special or technical courses, collegiate courses, and graduate courses. The preparatory courses are designed to aid students who, for any reason, desire to review their preparatory studies before entering upon regular university work. The special or technical courses are intended to aid teachers, lawyers, and physicians in actual practice. The collegiate courses are for students regularly matriculated in the University, and for such other persons, properly qualified, as wish to become candidates for a degree; under the conditions stated below these courses may be counted toward satisfying the degree requirements. The graduate courses are given under the direction of a committee of the Administrative Council of the Graduate School. They are open to graduates of any reputable college or university who, in the judgment of this committee, are competent to enroll for a higher degree. In addition to the graduate courses regularly announced, work along special lines is arranged by the several professors to meet the needs of individual students.

The courses given in the summer of 1905, with the names of the instructors, are enumerated in the following schedules:

I. DEPARTMENT OF LITERATURE, SCIENCE, AND THE ARTS

In the descriptions of courses here given, the terms *two hours, four hours, six hours,* etc., indicate the amount of credit assigned to the course. If no mention of hours is made, it is understood that the course is not entitled to credit toward a bachelor's degree.

Each full course of study, except when otherwise specified, comprises thirty lessons, one hour each day for five days in the week.

The right is reserved to withdraw any course not taken by at least five students.

GREEK

1. Rapid Reading Course in Homer's Iliad. *Two hours.* Dr. Stuart.

1*a*. The same as Course 1, except that the requirements in translation will be adapted to beginners. This course will be accepted as the equivalent of the University entrance requirement in Homer. Dr. Stuart.

2. Xenophon and Greek Prose Writing. *Two hours.* Dr. Stuart. Course 2 meets the entrance requirement in Xenophon and Greek prose writing.

3. Teachers' Course in the Anabasis. *Two hours.* Dr. Stuart.

4. Comparative Studies in the Greek Drama. The *Antigone* of Sophocles and the *Medea* of Euripides. *Two hours.* Dr. Stuart.

LATIN

1. Beginning Latin. Double Course. Dr. Meader.

2. Latin Writing. Translation of English into Latin, with rapid review of the Latin grammar. Dr. Meader.

3. Caesar's *Gallic War.* Dr. Meader.

4. Roman Constitutional History and Provincial Administration. *Two hours.* Professor Drake.

5. Roman Literature. *Two hours.* Professor Drake.

6. Rapid Reading of Easy Latin. *Two hours.* Professor DRAKE.
7. The Latin of the Secondary Schools. Lectures. *Two hours.* Professor KELSEY.

FOR GRADUATES

8. Proseminary in Roman Institutions. Professor DRAKE.
9. Lucretius. Professor KELSEY.

FRENCH

1. Beginners' Course. See Department of Engineering.
2. Modern Prose. Rapid Reading. *Two hours.* Assistant Professor EFFINGER.

FOR GRADUATES AND UNDERGRADUATES

3. Advanced Course in Composition. *Two hours.* Assistant Prosor EFFINGER.

FOR GRADUATES

4. The Literary Movement of the Nineteenth Century. *Two hours.* Assistant Professor EFFINGER.

ITALIAN

1. Beginners' Course. Grammar, reading, conversation. *Two hours.* Professor LEVI.

SPANISH

1. Beginners' Course. Grammar, reading, conversation. *Two hours.* Professor LEVI.

GERMAN

1. Modern Prose. *Two hours.* Dr. FLORER.
2. German Conversation. *Two hours.* Dr. FLORER.
3. German Composition. Advanced Course. *Two hours.* Assistant Professor HILDNER.

FOR GRADUATES

4. Advanced Course in German Composition, or Essay-writing. *Two hours.* Assistant Professor DIEKHOFF.
5. Goethe's Dramas. *Two hours.* Assistant Professor HILDNER.
6. Schiller's Dramas. *Two hours.* Assistant Professor HILDNER.
7. German Literature of the Nineteenth Century. *Two hours.* Assistant Professor DIEKHOFF.
8. German Syntax. *Two hours.* Assistant Professor DIEKHOFF.

ENGLISH LITERATURE

1. Outline History of English Literature. *Two hours.* Assistant Professor STRAUSS.
2. American Literature. *Two hours.* Assistant Professor STRAUSS.
3. Shakespeare. Selected plays. *Two hours.* Assistant Professor STRAUSS.

FOR GRADUATES AND UNDERGRADUATES

4. Chaucer. Canterbury Tales. *Two hours.* Professor DEMMON.

FOR GRADUATES

5. Dramatic History and Technique, with special reference to Shakespeare, his predecessors, and his contemporaries. Professor DEMMON.

RHETORIC

1a. Practical Composition. *Two hours.* Mr. MORRILL.
1b. Theoretical and Practical Studies in Description and Narration. *Two hours.* Mr. MORRILL.
2a. Advanced Studies in Structure. *Two hours.* Mr. THOMAS.
2b. Studies in the Theory of Style. *Two hours.* Mr. THOMAS.

ELOCUTION AND ORATORY

1. Exercises in Vocal Culture. Elements of quality, force, pitch, and time. *Two hours.* Professor TRUEBLOOD.
2. Shakespearean Reading. Two plays. *Two hours.* Professor TRUEBLOOD.

HISTORY

1. General History of England. From the accession of Henry VII to the end of the Stuart dynasty. *Two hours.* Assistant Professor CROSS.
2. Colonial History of the United States. *Two hours.* Dr. CORWIN.
3. The Civil War and the Period of Reconstruction. *Two hours.* Dr. CORWIN.

PHILOSOPHY

GENERAL PHILOSOPHY

1. Introduction to General Philosophy. Lectures, reading, discussions, written exercises. *Two hours.* Professor LLOYD.
2. Problems of Human Conduct. *Two hours.* Professor LLOYD.

PSYCHOLOGY

1. Introduction to General Psychology. Text-book. *Two hours.* Professor REBEC.
2. Psychology for Teachers. *Two hours.* Professor REBEC.

FOR GRADUATES AND UNDERGRADUATES

3. Advanced Work in Philosophy. *Credit arranged.* Professors Lloyd and Rebec.

THE SCIENCE AND THE ART OF TEACHING

1. Principles of Education. *Two hours.* Professor Alger.
2. Introduction to the Philosophy of Education. *Two hours.* Professor Whitney.
3. History of Education, Ancient and Mediæval. *Two hours.* Professor Alger.
4. Theoretical and Critical Pedagogy. *Two hours.* Professor Whitney.

POLITICAL ECONOMY

1. Elements of Political Economy. Text-book and lectures. *Two hours.* Professor Taylor.
2. Money and Banking. Text-book and lectures. *Two hours.* Professor Taylor.
3. Theory of Annuities and Insurance. *Two hours.* Assistant Professor Glover.

Course 3 is the same as Course 8 in Mathematics.

MATHEMATICS

1. Geometry. Preparatory course. Text-book: Beman and Smith's *New Plane and Solid Geometry.* Mr. Marshall.
2. Elementary Algebra. Text-book: Beman and Smith's *Elements of Algebra.* Assistant Professor Glover.
3. Trigonometry. Text-book: Crockett's *Plane Trigonometry. Two hours.* Professor Markley.
4. Algebra. Text-book: Wentworth's *College Algebra. Two hours.* Professor Markley.
5. Analytic Geometry. Text-book: Tanner and Allen's *Analytic Geometry. Four hours.* Mr. Marshall.
6. Geometry and Algebra for Teachers. *Two hours.* Professor Beman.
7. Calculus. Text-book: Osborne's *Differential and Integral Calculus. Two hours.* Professor Beman.
8. Theory of Annuities and Insurance. *Two hours.* Assistant Professor Glover.

Course 8 is the same as Course 3 in Political Economy.

9. Mechanics. Elementary Course. Text-book: Ziwet's *Theoretical Mechanics. Two hours.* Assistant Professor Glover.

FOR GRADUATES AND UNDERGRADUATES

10. Differential Equations. Text-book: Johnson's *Differential Equations*. *Two hours.* Professor Beman.
11. Projective Geometry. *Two hours.* Professor Markley.
12. Theory of Functions. *Two hours.* Professor Markley.

PHYSICS

1. Physics for Admission to the University. Double Course. Text-book: Carhart and Chute's *Physics.* Mr. Henderson.
2. Teachers' Course in General Physics. Lectures and recitations. Mr. Henderson.
3. Laboratory Work. *Two* or *three hours.* Dr. Randall.
4. Primary and Secondary Batteries. Lectures, recitations, laboratory work. *Two hours.* Dr. A. W. Smith.
5. Elementary Lessons in Glass Blowing. Professor J. O. Reed and Dr. Randall.

FOR GRADUATES AND UNDERGRADUATES

6. Electrical Measurements. Laboratory work and recitations. Text-book: Carhart and Patterson's *Electrical Measurements. Four hours.* Dr. A. W. Smith.
7. Laboratory Work in Heat. *Two hours.* Dr. Randall.
8. Advanced Electrical Measurements. *Three hours.* Dr. A. W. Smith.
9. Sound and Other Oscillatory Phenomena. Lectures, laboratory work, and reading. *Four hours.* Professor J. O. Reed.
10. Theory of Light. Text-book: Preston's *Theory of Light. Four hours.* Professor J. O. Reed.

FOR GRADUATES

11. Advanced Work in Light. Text-book: Mann's *Advanced Optics. Two hours.* Professor J. O. Reed.
12. Advanced Work in Sound. Laboratory work and reading. *Two hours.* Professor J. O. Reed.

CHEMISTRY

1. General Inorganic Chemistry. Lectures and recitations. *Four hours.* Mr. Higley.
2. Laboratory Work in General Inorganic Chemistry. *Two, three,* or *four hours.* Dr. Hale.
3. Qualitative Analytical Chemistry. Laboratory work and recitations. *Four, five,* or *six hours.* Mr. Smeaton.
4. Laboratory Work in Advanced Inorganic Chemistry. *Two to four hours.* Mr. Higley.

5. Beginning Quantitative Analysis. Lectures and recitations. *Four to six hours.* Dr. F. L. Dunlap.

6. Organic Chemistry. Lectures and recitations. *Two hours.* Professor Gomberg.

FOR GRADUATES AND UNDERGRADUATES

5*a*. Advanced Qualitative Analysis. *Five hours.* Dr. F. L. Dunlap.

7. Organic Preparations. Laboratory work and reading. *Two to four hours.* Dr. Cone.

8. Organic Analysis. Analysis of oils, soaps, fats, waxes, food stuffs, etc. *Two to six hours.* Dr. F. L. Dunlap.

9. Recent Theory bearing upon Analytical Chemistry. Lectures. *One hour.* Mr. Smeaton.

10. Elementary Theoretical and Physical Chemistry. Lectures and recitations. *Two hours.* Assistant Professor Hulett.

11. Laboratory Work in Elementary Physical Chemistry. *Two* or *four hours.* Assistant Professor Hulett and Mr. Duschak.

12. Theory and Practice of Exact Measurements. *Two hours.* Assistant Professor Hulett.

13. History and Development of Chemical Theory. *Two hours.* Mr. Higley.

14. German Scientific Reading. *Two hours.* Mr. Higley.

PHARMACY

1. Theory and Practice of Pharmacy. Experimental lectures, recitations, and laboratory work. Mr. Blome.

2. Pharmacognosy, Materia Medica, and Therapeutics. Lectures and recitations. Mr. Blome.

GEOLOGY

1. Elementary Geology. Lectures and field excursions. *Two hours.* Assistant Professor Kraus.

BOTANY

1. General Botany. Lectures and laboratory work. *Two* or *four hours.* Dr. Burns.

2. Teachers' Course in Field Ecology. Lectures, laboratory and field work. *Two* or *four hours.* Dr. Burns.

3. Teachers' Course in Methods and Technique. Lectures, conferences, laboratory work. Dr. Pollock.

4. General Biology (botanical). *Two hours.* Dr. Pollock.

5. Plant Disease. Lectures and laboratory work. *Two* or *four hours.* Dr. Pollock.

FOR GRADUATES AND UNDERGRADUATES

6. Advanced Course in Ecology. *Two* or *four hours.* Dr. BURNS.

FOR GRADUATES

7. Research. *Two* or *four hours.* Dr. BURNS.
8. Independent Work in Plant Pathology. *Credit arranged.* Dr. POLLOCK.

PHYSICAL TRAINING

1. General Gymnastics and Physical Training. Dr. MAY.
2. Corrective Gymnastics. Dr. MAY.
3. Treatment of Emergencies. Dr. MAY.
4. Anthropometry. Dr. MAY.
5. Special Contest Exercises. Dr. MAY.

II. DEPARTMENT OF ENGINEERING

ENGLISH

1*s*. Paragraph and Theme Writing. *Four hours.* Mr. TARBOX.
1*a-s*. Theme Writing. *Two hours.* Mr. TARBOX.

FRENCH

1*s*. Beginners' Course. *Four hours.* Mr. BIRD.
1*a-s*. Beginners' Course. The equivalent of two hours of Course 1*s*. Mr. BIRD.

GERMAN

1*s*. Beginners' Course. *Four hours.* Assistant Professor WAIT.
1*a-s*. Beginners' Course. The equivalent of two hours of Course 1*s*. Assistant Professor WAIT.

DRAWING

1*s*. Geometrical Drawing. *Two hours.* Mr. WILSON.
4*s*. Free-hand Drawing (elementary). *Three hours.* Mr. WILSON.
5*s*. Descriptive Geometry. Text-book: Church's *Descriptive Geometry. Four hours.* Assistant Professor GOULDING.
14*s*. Stereotomy. *Two hours.* Mr. WILSON.
16*s*. Free-hand Lettering. *Two hours.* Assistant Professor GOULDING.

CIVIL ENGINEERING

3*s*. Graphical Analysis of Structures. *Two hours.* Mr. TILDEN.
4*s*. Graphical Analysis of Structures (advanced). *Two hours.* Mr. TILDEN.
5*s*. Strength and Resistance of Materials. *Three hours.* Mr. TILDEN.

SURVEYING

3*s*. Field Work in Camp. Mr. MERRICK and assistants.

Except by special permission of the Faculty this course is open only to students who are working for a degree in civil engineering.

MECHANICAL ENGINEERING

4*s*. Boilers. Steam Engines. *Two hours.* Mr. HIGBIE.

9*s*. Power Measurements and Machine Testing. Laboratory work. *Two hours.* Mr. HIGBIE.

11*s*. Steam Engineering. Laboratory work. *Three hours.* Mr. HIGBIE.

2*s*. Elements of Mechanism. *Two* or *three hours.* Mr. WILSON.

5*s*. Valve Gears. Graphical Statics of Mechanism. *Two hours.* Assistant Professor GOULDING.

ELECTRICAL ENGINEERING

4*b-s*. Dynamo-Electric Machinery. Lectures, recitations, laboratory work. *Four hours.* Mr. BAILEY and Mr. MOREHOUSE.

Course 4*b-s* is designed primarily for students in the Department of Engineering, but is open to other students in the Summer Session, with permission of the instructors in charge.

MINERALOGY

1*s*. Elementary Mineralogy. Lectures and laboratory work. *Two hours.* Assistant Professor KRAUS.

2*s*. Determinative Mineralogy. Field excursions and laboratory work. *Two hours.* Assistant Professor KRAUS.

3*s*. Graduate Course. Assistant Professor KRAUS.

METALLURGY

1. Fuel and Refractory Material. Iron and Steel. *Three hours.* Assistant Professor WHITE.

SHOP PRACTICE

The courses in shop practice are under the direction of Mr. W. L. MIGGETT, Superintendent of Shops, aided by competent assistants in the several lines of work.

1*a-s*. Carpentry. *Two hours.*
1*b-s*. Pattern Making. *Two hours.*
2*a-s*. Blacksmithing. *Two hours.*
3*a-s*. Foundry. *Two hours.*
4*a-s*. Machine Shop. *Three hours.*
4*b-s*. Machine Shop. Advanced Course. *Two hours.*
5*a-s*. Instrument Making. Specially designed for teachers of science or students preparing to teach science. *Two hours.*

III. DEPARTMENT OF MEDICINE AND SURGERY

MEDICINE

1. Clinical Medicine and Diseases of the Stomach. Professor DOCK and Dr. COWIE.

SURGERY

1. Clinical Surgery. Professor NANCREDE.
2. Demonstration Course in Surgical Technique and Bandaging. Professor NANCREDE.

GYNÆCOLOGY

1. Clinical Gynæcologic Diagnosis. Professor PETERSON.
2. Diagnostic and Operative Gynæcology. Professor PETERSON.
3. Operative Gynæcology on the Cadaver. Professor PETERSON.

DISEASES OF THE MIND AND NERVOUS SYSTEM AND ELECTROTHERAPEUTICS

1. Laboratory Course in Electrotherapeutics and Radiology. Mr. WILLEY.
2. Demonstration Course in Diseases of the Mind and Nervous System and Electrotherapeutics. Dr. SOLIS.
3. Clinical Neurology and Psychiatry. Professor HERDMAN and Dr. KLINGMANN.

PATHOLOGY

1. Laboratory Course. Professor WARTHIN and assistant.

CLINICAL OTO-LARYNGOLOGY

1. Diseases of the Ear, Nose, and Throat. Advanced Course. Professor CANFIELD.

PHYSIOLOGICAL CHEMISTRY

1. Laboratory Course. Mr. NIMS.

BACTERIOLOGY

1. Laboratory Course. Mr. LEVY.

VERTEBRATE HISTOLOGY

1. Laboratory Course. Dr. DEWITT.

IV. DEPARTMENT OF LAW

The brief courses given in the Summer Session are offered, not as, in any sense, the equivalent of the corresponding courses of the regular session, but as affording to persons who have previously studied the subjects a fitting review to prepare them to ask for advanced standing in the department; and as furnishing to persons who are preparing to take examinations for admission to the bar a valuable drill on the fundamental principles of the subjects offered.

The schedule of work is so arranged that no two exercises are held at the same hour. Each student is expected to take three hours a day of class room work; and no student who has not previously studied law for at least ten months is allowed to take more than twenty hours of instruction a week. But persons who present proper certificates of having spent at least ten months in the reading of law, may, upon application, receive special permission to take such work as they appear able to carry to advantage.

An examination is held in each subject at the close of the course.

The courses of study given in the summer of 1905 were as follows:

Agency.—Mechem's *Outlines and Cases.* Professor GODDARD.
Contracts.—Anson on *Contracts.* Professor KNOWLTON.
Criminal Law.—Clark on *Criminal Law.* Professor KNOWLTON.
Criminal Procedure.—Clark's *Criminal Procedure.* Professor BUNKER.
Domestic Relations.—Tiffany on *Domestic Relations.* Professor SAGE.
Elementary Law.—Blackstone's *Commentaries,* Books I, II. Professor GODDARD.
Real Property (Elementary).—Blackstone's *Commentaries,* Book II. Professor DRAKE.
Sales.—Tiffany on *Sales.* Professor BATES.
Torts.—Cooley's *Elements of Torts.* Professor BOGLE.
Bailments and Carriers.—Goddard's *Outlines and Cases.* Professor GODDARD.
Bills and Notes.—Bigelow's *Bills and Notes.* Professor BUNKER.
Code Pleading.—Pomeroy's *Code Remedies.* Professor BOGLE.
Common Law Pleading.—Perry's *Common Law Pleading.* Professor BOGLE.
Corporations (Private).—Text-book and Cases. Professor BATES.
Damages.—Mechem's *Cases on Damages.* Professor SAGE.
Equity Jurisprudence.—Bispham's *Equity Jurisprudence.* Professor LANE.
Equity Pleading.—Thompson's *Equity Pleading.* Professor BUNKER.
Evidence.—Greenleaf on *Evidence,* Volume I. Professor LANE.
Partnership.—Mechem's *Elements and Cases.* Professor SAGE.
Quasi-Contracts.—Lectures and Cases. Professor KNOWLTON.
Real Property (Advanced).—Professor BATES.

EXAMINATIONS

Every student desiring credit toward graduation for work done in the Summer Session is required to pass examinations in the courses taken.

CREDIT TOWARD GRADUATION

I. Department of Literature, Science, and the Arts

1. Credit toward graduation with the degree of Bachelor of Arts may be given to students regularly enrolled in the Summer Session, subject to the following rules and regulations:

(*a*) No credit is given save for work that is similar in kind to courses that are regularly offered in the department.

(*b*) Credit is given only for full courses of five hours a week for the session, or multiples thereof. Exceptions to this rule may be made in the case of laboratory courses.

(*c*) The credit to be given for a full course of five hours a week is *two hours,* and for the multiple courses in proportion. In some courses credit for *three hours* or *five hours* may be given for proportional time and work.

(*d*) No student can receive more than *six hours* of credit for work done in any one Summer Session.

(*e*) All credits are reported by the several instructors to the secretary of the executive committee immediately on the close of the session.

2. In some of the subjects of study graduate courses are offered, which may be taken by students properly enrolled, and may be counted toward the requirements for a higher degree. Work of this character is under the direction of a committee of the Administrative Council of the Graduate School.

II. Department of Engineering

The regulations relating to the giving of credit in the Department of Engineering are substantially the same as those in force in the Department of Literature, Science, and the Arts, as given above.

III. Department of Medicine and Surgery

Some of the courses offered are designed for graduates and advanced students only, and cannot be counted among the requirements for graduation. Others are the equivalent of certain portions of the prescribed curriculum, and for these, when satisfactorily completed, credit is given; but no allowance for time can be granted for such work. No student, therefore, can shorten his prescribed term of residence in the University by attending the Summer Session.

IV. Department of Law

Credit in the regular course of the department may be granted for subjects passed in the Summer Session on the following conditions:

The student requiring such credit must, when applying for admission to the regular course, first present the required credentials and satisfy the Dean of the department as to his right to apply for advanced standing in the second-year or the third-year class, under the regulations previously described (see page 208). He will then be given credit for the subjects passed in the Summer Session in which he would be entitled to ask for an examination for advanced standing. Furthermore, the regulations governing admission to the second-year class will be so far modified in favor of students in the Summer Session as to make twelve months of study, ten under a practicing attorney and two in the Summer Session, the equivalent of the fifteen months of study under an attorney required of other applicants.

All students in the Summer Session are entitled to a certificate of attendance (see page 220).

List of Graduates of 1905*

DEPARTMENT OF LITERATURE, SCIENCE AND THE ARTS

BACHELOR OF ARTS

Caroline Farrand Bacon Abbott
Ethel Alice Adams
Thaddeus Hoyt Ames
Charles Sumner Andrus
Harold Hunter Armstrong
Harry Roy Atkinson
Sidney Major Auer
Blanche Avery
Elma Bailey
Morell Brainard Baker
James Stanley Baley
Jessie Ewing Bane
Nina Gordon Bannister
Willard Titus Barbour
George William Barnum
Ralph Waldo Bayley
Lucile Bell
Ralph Beman
Constance Bement
Minerva Benjamin
Otto Carter Berry
Zella Slater Bissell
Martha Tarsney Blatz
Zina Leigh Bliss, B.S.,
Kansas State Agr. College
Leigh Charles Bloomfield
George Samuel Bond, B.S.,
Earlham College
Oswald Friederich Boucke
Bessie Emily Bowman
Mary Griffin Boyle
Cornelius James Brosnan
Loretta Agatha Brown
Julia Marion Brownell
Ida Marie Brownrigg
Mary Gertrude Buck
Mildred Leah Bucks
George Samuel Burgess
Anna Mary Burkheiser
William Henry Burmeister
Florence Edna Burton
Elizabeth Margaret Bush
Charles Fuller Campbell
Archibald Edward Carey
Flora Fay Carr
Ella Carson
Katharine Blythe Carter
Isabella Alexandra Cass
Abigail Boothe Chandler
Ivan Edgar Chapman
Lulu B. Chase
Archibald Lamont Chubb
Earle Hart Clapp
Georgia Clark
Herbert Watson Clark
†Lilian Evangeline Cleveland
William Clark Cochrane
Mildred Irene Collins
†Wilkie Nelson Collins
Louis Herbert Conger
Arthur Oliver Cook
Jessie Rosamond Cook
Edith Belle Cooper
Lotta Fayette Copley
Mary Elizabeth Cromwell
Nellie Cronkhite

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*The list of Graduates contains the names of all persons on whom degrees were conferred during the year 1905. A dagger (†) indicates that the degree was conferred at some other time than Commencement.

Mae Lavinia Cryderman
†Lillian Cope Cummings
Maynie Rose Curtis
James Arthur Cutler
Harry Hector Dale
Lily Dale
Mary Adelaide Dann
Charlotte Mae Davenport
Vernon Cyrenius David
Stephen Albion Day
Marjorie Ward Dearing
Grover Cleveland Debre
John Abram DeHollander
Paul Edward Demmler
Alton. D. DeWitt
Fabian Bouton Dodds
Frank Doty
Agnes Louise Eaton
Lucius Walter Elder
Mary Frances Farnsworth
Rhoda Pamela Farquharson
Maude Elliott Ferguson
Mary Fides Flanagan
Charlotte Starkweather Fowler
Ethelbert Hazelton Fowler
Cousie Fox
George Arthur Fox
Augusta Lisette Franck
Oliver George Frederick
Florence June Freeman
Ethel Marie French
Alice Marie Frost
George Newman Fuller
Raymond Charles Fulmer
John Arthur Gamon
†Harry Eben Gardner
Lily Cecile Gauntlett
Louise Emily George
Irene Wentworth Gilbert
Joseph Rogers Gillard
Clara Adele Goheen
†Bertha Marion Goldstone
Nina Roccena Goodnow
William Rufus Goodrich
Abigail Mae Gue
Clifford Louis Guest
Clare McCall Gundry
Lida Hafford
Frank Llewellyn Hager
Will Ralph Hall
Robin Lynn Hamilton
Eugene Teel Hammond
Harry Emmons Hammond
Edna Wallace Hare
Ethel Euneita Hare
Katharine Lucretia Harrow
Violet Dosia Hart
Pauline Jewett Hayes
Jessie Mae Helsell
John Edwin Henes
Anna Henry
Frederika Lena Hine
Bessie Myrtle Hitchings
Clement Milton Holderman
Jessie Ione Holmes
James Avery Hopwood
Alexis Charles Houghton
Nina Maud Houser
Anne Elizabeth Huber
Arthur Thomas Hugg
Helen Vie Hulett
Lawrence Cameron Hull, Jr.
Estelle Louise Hunt
Harold Olney Hunt
Inez Adelia Hunt
Edith Schutte Hurst
Maude Adele Isherwood
Elden Valorius James, A.B., *Marietta College*
Ira Waite Jayne
Augustus Martyn Johnson
†Guy McKevitt Johnson
Helen Lenor Johnson
Lena May Johnson
Mary Marilla Johnson
Arthur John Jones
Lorin Hamlin Jones
†Homer Walker Josselyn
Clyde Fenworth Karshner
Nellie Mae Kellogg
†Joseph Hubert Kempster
Raymond Russell Kendrick
Edwin James Kenny
Joseph Young Kerr
Ross Howland Kidston
†Bertha Grace Killen
José Bergin King
Eva May Kinney

Elmer Lee Klise
Clara H. Kramer
Henri Clyde Krenerick
Harold Kenneth Latourette
Clarence William Lawr
Marion Eleanor Leeper
John Fletcher Lewis
Jennie Marian Liebich-Coy
George Allan Lindsay
Unabelle Locke
Carlos Pointon Long
Clyde Elton Love
Marguerite Dudley Mabley
Gertrude Nell McClelland
Ethel Pierce McCombs
Nelson Ferris Macduff
George Hudson McLellan
William Duncan McNally
Georgiana Amy McSweeney
Bertha Evelyn Malone, B.S., *Michigan Agricultural College*
Minnie Maud Manley
Ira Albertus Marble
Mark Marshall, B.S., *Earlham College*
William J. Marshall
Edith Hazel Martin
†Ella Annetta Mathews
Bertha Philomene Merkle
Charles Jacob Michelet
†Margaret May Milbank
Anna Josephine Miller
Elnora Belle Miller
Francis Rankin Miller
Sidney Romeyn Miller
Jean Milligan
Van Lieu Minor
Albert Horr Montgomery
Mabel Emma Moore
Mabel Julia Moorhead
Ortille Mullenbach
Blanche Eloise Myers
Adriaan Nagelvoort
George Falley Ninde
Guy William Norton
Harriet Teresa O'Dea
Mahlon Ellsworth Olsen
†Grace Osborne
Frederic Breading Oxtoby
†Clara Elizabeth Pagenstecher
Isabel Helen Parnall
Carl Eugene Parry
Walter Stephenson Parsons
Myrtie Leah Perrigo
†Edith Ellen Pettee
Cora Eliza Petty
†Frank Jay Phillips, B.S., *Michigan Agricultural College*
Howard Harvey Pierce
†Lucia Wynifrid Pierce
†Axel William Pierson
Susan Bertha Potter
Katharine Imogene Preston
Louis Quarles
Ruby C. Ramsdell
Ethel Mary Read
†John Albert Redfield
Anna Caroline Reding
Frederic Charles Renaud
Walton Karthalo Rexford
Sallie Palmer Rice
Charles Frederic Curtis Riley, A.B., *Doane College*
Lorne Stanley Barnet Ritchie
Homer Elmer Robbins
Samuel Henry Roberts
Clara Elizabeth Robinson
La Vern Rogers
Edward Addison Rood
Gustave William Rosenberg
Dorothea Rouse
Harlan Page Rowe
Frank Emery Royce
Winifred Isabelle Rudge
Fanny Belle Rule
Sophie Rood St. Clair
Wilfred Napoleon St. Peter
†Etta Louise Salliotte
Etta Evelyn Schertz
Ernst Schmitz
Emily Seymour
Elmer Spessard Shank
Margaret E. Deshler Shearer
Geraldine Eunice Sheehan
Thomas Harry Slusser
Katharine Elizabeth Smalley

Charles Stowell Smith
Edna Smith
Gertrude Chalfant Smith
John Clarence Smith
Marion Smith
Mary Louise Smith
†Robert C. Smith
Agnes Luanna Snover
Robert Earle Snyder
Hugo Sonnenschein
Thomas Marshall Spaulding
Charles Henry Sproat
Elizabeth Jane Stafford
Emma Stanbery
Elvira Lovisa Stark
Helen Fay Stark
Isobel Jeannette Stellwagen
George Henry Steves
Mabelle M. Stewart
Nannette Marie Stewart
Mallory Napoleon Stickney
Adeline Abbie Stine
Harold Augustus Stockly
Ralph Stoepel
Herbert King Stone
Irving Kimberly Stone
John Spoor Stover
Fred Charles Strain
Hildegard Strempfer
Margaret Lloyd Tatlock
†Hale Tennant
Elsie Rose Thomasma
Helen Ruth Thompson
Grace Augusta Todd
Elsa Flora Tritscheller
Alexander Linn Trout
Rhea Luella Tyler
Alice Vander Velde
Donald Dexter Van Slyke
Liefy Jeannette Veenboer
Nathan Thomas Viger
Olga Olive von Zellen
Elsie Rochester Wade
Theodore Edward Wagner
Ethelbert Webb Waldron
Ida Margaret Walz
†Anson Harvey Washburn, A.B.,
Butler College
Ada Louise Weckel
Pina M. Welbourn
Edward Howland Weld
Sarah Blanch Weston
Clara Helen Wiggins
Lois Wilson
Marion Elizabeth Wilson
Samuel Perry Wilson
Wallace Kirtland Wonders, B.S.,
Michigan Agricultural College
Frank Elmer Wood
Rex Spencer Kingsford Wood
Bertha Cary Woodhams
Henry Woog
Oscar Herman Wurster
Mable Alice Yakeley
Elizabeth Tabita Zimmerman

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MASTER OF SCIENCE

(IN FORESTRY)

Wesley Bradfield, A.B.,
Alma College
Cary LeRoy Hill, A.B.
†George Wilcox Peavy, B.L.
†Joseph DeWitt Warner, A.B.,
Cornell University
Edmund John Zavitz, A.B.,
McMaster University

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MASTER OF ARTS

Carrie Augusta Barden, B.S.,
Upper Iowa University
George W. Brail, A.B.,
Albion College
Agnes Ewing Brown, B.S.,
University of South Dakota
Charles Robert Cobb, A.B.,
Greenville College
†John Leonard Conger, A.B.
Mary Ellen Duffy, Ph.B.
Charles Henry Estrich, A.B.,
Ohio Wesleyan University

Adelaide Gemberling, A.B.
Maudelle Margaret Germonde, B.L., *Ohio Wesleyan University*
Carrie May Gilpin, A.B., *Albion College*
†Clarence Wilson Greene, A.B.
James Floyd Halliday, A.B.
Flora Elsie Hill, B.L.
†Lemuel Guy Holbrook, Ph.B.
Walter Fred Hunt, A.B.
Clara Octavia Jamieson, A.B.
†Genevieve Imus, A.B.
Allen Marshall Kline, A.B.
William Jacob Lehman, A.B., LL.B.
†Dale Livingston, A.B.
Herman William March, A.B.
†Vernon Griffith Mays, Ph.B., *Albion College*
John Edward Mealley, B.S., *Albion College*
William Daniel Moriarty, A.B.
Frances Elisabeth Nichols, A.B., *Middlebury College*
Thomas Ernest Rankin, A.B.
†Arthur McBride Ransom, B.S., *Alabama Polytechnic Institute*
Henry Jasper Richmond, A.B.
James Marion Robb, A.B., *Greenville College*
Hideo Sakuma, *Doshisha University*
Roda Selleck, A.B.
Elisabeth Ethel Sinclair, A.B.
Carrie Lucile Stone, A.B.
Richard Ryan Thompson, A.B., *South Western Baptist University*
Harry Norton Torrey, B.S., *Knox College*
Ora Travis, A.B.
Perry Fox Trowbridge, Ph.B.
Lucia Isabelle Voorhees, A.B.
Bess May Vrooman, A.B.
Guy Leslie Wait, A.B.
Hobart Hurd Willard, A.B. 41

DOCTOR OF PHILOSOPHY

Henry Herbert Armstrong, A.M.
Lee Holt Cone, B.S., *Pomona College*
Charles Albert Davis, A.M., *Bowdoin College*
Jean Dawson, A.M.
George Oswin Higley, M.S.
John William Scholl, A.M.
Orrin Edward Tiffany, A.M.
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DEPARTMENT OF ENGINEERING

BACHELOR OF SCIENCE

(IN MARINE ENGINEERING)

William Henry Distin, Jr.
†Howard Benson Howie
Horace Winchester Miller, Jr.
Edwin Schneck
Reginald Heber Towler 5

BACHELOR OF SCIENCE

(IN CHEMICAL ENGINEERING)

Joel Martin Barnes
John Alexander Ferguson, A.B.
Carl Herman Frederick Fischer
William Boydston North, M.D., *Toledo Medical College*
Harley Emanuel Olson

Frank Keehn Ovitz
Walter Christian Riebling
†Ruby John Smith
Carmi Jefferson Tryon, Jr.
Frederick George Wahl 10

BACHELOR OF SCIENCE

(IN ELECTRICAL ENGINEERING)

Harold Gillespie Bandfield
Harry Arthur Brown
Leon Christian Coller
Harold Shields Dickerson
Albert Lewis Gayer
John Orpheus Gilbert
Ralph Othniel Gooding
John Herman Hunt
†Cyril Methodius Jansky
William Kletzer
William Henry Meese
Ralzemond Drake Parker
Edward Foote Perkins
Walter Charles Smith
Ralph Albert Stow
Fred Remington Temple
†John Marcus Van Splunter
Richard Arod Welch
William Kissick Wilson
John Joseph Woolfenden 20

BACHELOR OF SCIENCE

(IN MECHANICAL ENGINEERING)

James Arthur Brown
Louis Edward Burton
Rollo William Detwiler
Byron William Dunham, B.S., *Kalamazoo College*
Robert Bisbee Elsworth
Claude Jesse Fry
James Stewart Fulton
Edwin LeRoy Gemmill
Earl D. Glidden
Alexander MacDonald Graver
Gilbert Ray Haigh
Omar Israel Hall
†Edward Lawrence Hogan
Clarence Ricker Jones
Daniel Whiting Lathrop
Ralph William McMullen
Joseph Archibald Parks
†Arthur Mason Rebstock
James Finley Smith
Sherwood Hubbard Standish
James Stokoe
Warren Willits Tracy
Don Byron Webster
Lawrence Chauncey Whitlark
James Dale Whitmore
James Herbert Young 26

BACHELOR OF SCIENCE

(IN CIVIL ENGINEERING)

Robert Edmund Andrews, A.B.
John Wesley Bell
Rolla Lavante Bigelow
David Theodore Bjork
Orville Berton Carlisle
Ross Miller Coomer
Arthur James Decker
Henry Cadby Dewey
Ralph Samuel Gram
Sidney Twichell Harding
Charles Edward Hayes
Howard Benson Howie
Daniel William Kimball
Arthur Emil Kusterer
Rudolph Lewen
Arthur Tremaine MacDonald
Horace Guy Merrick
Mortimer Cooley Nichols

†Oscar Edward Olson
William Lear Pearson
Charles Franklin Peck
Rex Densmore Richardson
Martin Richtig Schober
Donald David Smith
Dee James Sterrett
Delmar Edson Teed
Ralph Russell Tinkham
Carl Herbert Upmeyer
Henry G. Watson
Daniel Asaph White
Lyle Antrim Whitsit
Samuel Wilson
Otto S. Zelner 33

MASTER OF SCIENCE

Mark Harris Gregg, B.S.
Edward Lawrence Hogan 2

CIVIL ENGINEER

†Isaac Channing Goff, as of the Class of 1879 1-97

DEPARTMENT OF MEDICINE AND SURGERY

DOCTOR OF MEDICINE

Frank Staples Bachelder, B.S.
Daniel Emmett Barnett
William Edwin Barstow
Robert Osborne Beakes
Howell Llewellyn Begle, B.S.
Albert James Bower, A.B.
Hubbard North Bradley, A.B., *Oberlin College*
Leslie Shellabarger Brookhart
Charles Henry Brown, A.B.
Roy Alton Brown
Ross McClure Chapman
Walter Daniel Chase
Otto Charles Christmann
Myron William Clift
Fred John Conzelmann
Ralph Gilmore Cook
Dan Holton Eaton
Vene Duane Farmer
Lucius Augustine Farnham
Hugo Abraham Freund, A.B
Louis Merwin Gelston, Ph.D.
Ephraim George Gray, A.B.
George W. Green, A.B., *Hillsdale College*
Lee Bey Greene, B.S. *North Dakota Agricultural College*
Lewis Henry Hector, A.B.
Roy Howe
Edward Godfrey Huber, A.B.
Arthur Wheaton Ide, A.B., *University of Kansas*
Buenaventura Jimenez
James Harvey Lasater, B.S., *Whitman College*
George Henry Lewis
Lyman Converse Lewis
William Robinson Lyman, A.B.
John Joseph McCann
Frank Talbot McCormick
Donald Ross MacIntyre, A.B.
Ward J. MacNeal, Ph.D.
Edward Ross Marshall, A.B.
John Alphonso Mason
Charles W. Merkel, Ph.C.
James Amos Morehouse
Paul Scott Miller, A.B.
Eugene Wendell Mullen

Katharine Piatt Raymond, B.S., *University of Cincinnati*
James Ross Reed, A.B.
Lily Theresa Roche
Frederick Constans Rodda
Charles Joseph Rothschild
Fred McKemy Ruby, A.B.
James Percy Schureman, A.B., *Princeton University*
Urban Daniel Seidel
Wales Melvin Signor
Stephen Herbert Smith, A.B.
William Joseph Sugnet
Edwin Roy Taylor
Earl Jesse Thomas
Clarence Clybourne Urquhart
Henry J. VandenBerg
Frances Powell Waugh
James Arthur Wilson
Harro Woltman 61

DEPARTMENT OF LAW

BACHELOR OF LAWS

Herbert Abbott
Horace Herbert Adams
Wilbur Christopher Adams
Allan Garfield Aigler, A.B., *Heidelberg University*
Olney Carpenter Allen
†William Patterson Allen
Chester Martin Apel
Harvey H. Atherton
Frederick Watson Bailey
Hundley Bayze Baker
†George Edward Ball
Arthur Luke Bancroft, A.B., *Hiram College*
Edward Norton Barnard
Arthur Adolph Basse
Leland Flint Bean
Gaylord Newell Bebout
Frank L. Belknap
Frank Tripp Bennett
Bernhard Olaus Berge
Guy Livingston Blair
Robert Bruce Blake
Paul Waldemar Leopold Boehm, B.L., *University of Wisconsin*
Charles Lee Brewster
†John Frederick Brocksmith
George L. Brown
Delbert Clark Browning
Louis Paul Buckley
Percy Jay Bunning
James Edward Burkey
William Fulton Burnett
Frederick E. Butler
James Edward Cahill
Gordon Jared Cain
William Donald Campbell
Harry Lee Carmichael
John Daniel Carmody
Irving Carpenter
Rees Herbert Carr
David Friedley Carson
Harvey Lester Cavender
Earl Rolin Chapin
†Albert Edward Chittenden
Herbert Lynn Clancy
†William Samuel Cochrane
Frank Chase Cole
Walter Dayton Cole
William Cutler Cole, B.S., *Marietta College*
Don Byron Colton
Earl Richards Conder
Jay Edmund Condren
Thomas Warsop Cooper
James Beattie Cordiner, A.B., *Washington Agricultural College and School of Science*
Peter Thomas Cordiner
Robert Pantland Stuart Cordiner, A.B., *Washington Agricultural College and School of Science*

Herbert Lee Cox
Douglas Benjamin Crane
Clayton DeLisle Crawford
Earle Lin Crossman
David Henry Crowley
Frederick Charles Crumpacker, A.B.
Harry Louis Crumpacker, A.B.
Owen Lucas Crumpacker, A.B.
Gilbert Archibald Currie
Lowell Daniels, A. B., *Coe College*
Edmund Lincoln Devereaux
James Paul Devereaux
Edwin Elroy Dibbs
Edward William Dickey
Harry Augustus Dickey
Theodore Joseph Drees
Edward Lawrence Eardley
Dan Earle, A.B., *Oberlin College*
Lewis Spencer Eaton
Henry Wirt Eberstein
George Palmer Edmonds
Otto Augustus Ehlers
Don Hiatt Elleman
John Frederick Engelke
Morgan Walter Evans
William Lincoln Fitzgerald
Arthur Ellis Fixel
Charles Rae Foster
James Lovat Fraser
Elwood LeVerne French
Jesse McClelland Galloway
Rheu Jay Garty
Tjark Remmers Gerdes
Joseph Gill
Charles Emerson Goettman
Louis Lawther Goodnow
Ernest L. Greene
Wade Greene
Leslie Henry Gridley
William John Griffin
John James Hall
Mark Kerr Hance
Leon Winferd Harrington
Harvey Elias Hartz, A.B., *Franklin and Marshall College.*
Morton Grove Hatch
Clarence George Hill
Walter Scott Hogg
Frank Irving Holmes
Antone Joseph Horsky
Joe Morritz Hoxie
Dimmitt Cooper Hutchins, A.B., *Ohio Wesleyan University*
Emra Hobbs Ireland
James Leo Irwin
†Paul Jones
Thomas Daniels Jones
Charles Lloyd Justice, A.B.
Audy Jay Keever
Charles Tilghman Kemmerer, Jr., Ph.B., *University of Iowa*
William Merlin Kephart
Raymond Asbury Kerr, A.B., *Ohio Wesleyan University*
Thomas Hill Kingsley, A.B.
John Frederic Kirkbride
James Lewis Knapp
Louis Allen Leonard
Walter Nelson Leonard
William Balloch Leslie, A.B., *College of Emporia*
James Nathan Linton
William Russell Lloyd, A.B.
Cass Timothy Lockwood
Harry Lee Lockwood, B.S., *Upper Iowa University*
William Clarence Losey
Arthur Edward Lott
Earl Lovejoy
Chester Hiram Lowry, B.S., *Oklahoma Agricultural and Mechanical College*
George Elmer McArthur
Moses McElroy
Victor Roy McLucas, A.B., *University of Nebraska*
†Dustin Wallace McNabb
Walter Carson McNeil, A.B.
Donald Grant McVean
Leroy Alexander Manchester
Arthur Cooper Marriott
William Nogel Cameron Marsh, B.S., *Bucknell University*

†Floyd Julius Mattice
Harry Lester May
James Maynard, Jr., A.B.,
Princeton University
Arthur Clark Miller
George Duncan Milliken, B.S.,
Central University of Kentucky, LL.B., *ibid*
John Arthur Milotte
Henry Miltner
Augustus John Moilanen
William Franklin Moyar
Edwin Spencer Murray, A.B.
Edward James Myers
Willard James Nash
William Scott Nash
James Howe Nichols
Con Kennedy O'Byrne
James Calvin Odle
John Henry O'Leary
James Elbert O'Neill
Herbert Pritchard Orr
Lee Lynd Osborn
Lloyd Lynn Osborn, A.B.
Roy Melbourne Overpack, A.B.
Arthur Wayne Parry
Earle Lytton Peters
Frank Joseph Powers
John William Quinn
†Frank Winfield Radley
Harry McHenry Rankin
Arturo Reichard, A.B.,
Institute of Porto Rico
Michael Rinn
John Albert Rippel, Ph.B.,
Coe College
Charles Adams Robertson
Carl Christian Rogner
Sandford Chandler Rose
Reuben Henry Rossman
Martin Royston
Clarence Morgan Russell
John Arthur Ryan
George Eves Sands
Hurst Henry Sargent
Reuben Stephen Schmidt, A.B.
Maurice William Seitz
Clarence Jay Silber
George Wesley Silverthorn
Jesse Simmons
Robert Stephenson Simons, B.L.,
University of Virginia
†Abner Wyman Smith
David Franklin Smith
Elmer George Smith
Frederick Parker Smith
Irving Henry Smith
George Washington Sommer
Henry Francis Steele
Charles William Steiger
William Joseph Steinert, A.B.,
Central Univ. of Kentucky
John Harlin Stiles
Edward Ralph Strauss
Ralph Wood Street
James Albert Stump, B.S.,
Colorado Agricultural College.
Ray Leslie Swift
Roy Garfield Swift
Albert Valentine Thomas
Roy William Thomas
Claude Arthur Thompson
Alfred Todd
Emanuel Van Ameringen
Nicholas George Van Sant, M.S.,
Cornell College, LL.B., *Stetson University*
†David Russell Vaughn, Jr.
Bird J. Vincent
William Waddle
Edward Howland Wagner
Sidney Elery Walker, B.S.,
University of Montana
†Ben Wallace Ware
Carlton Wood Washburn, A.B.
Harry Booth Washburn, A.B.
Thomas Robert Waters
William Wallace Watson
Leo Lynch Watkins
Lewis Joseph Weadock
James Garfield Welch
Jay B. Weymouth
Burton Kendall Wheeler
Homer George White
Roland John White
Clarence Edward Wilcox
Don Dickinson Williams

Charles Alfred Wilson
Floyd E. Winter
Edward Clarence Wolfe
Harry Mathias Wolfe
George Sherman Wright
Carl Robert Yaeger
William Henry Yearnd 230

SCHOOL OF PHARMACY

PHARMACEUTICAL CHEMIST

Cornelius John Dutmers
Gordon William Eatough
Edward Fox
Louis Mauricio Guillermety
Frank Hamilton
William John Hart
Ralph Anton Helmer
William Rolland Lehr
Claude Wilbur Lewis
Mary May MacDonough
Florence Mabel Meek
John George Nichols
John George Stadler
Glenn Alfred Van Syckle
Robert Frederick Widenmann
Joseph Mose Wolff
Otis Young 17

BACHELOR OF SCIENCE

(IN PHARMACY)

James Richard Huber, Ph.C.
Raymond Jacob Van Doren 2

MASTER OF SCIENCE

(IN PHARMACY)

Walter Henry Blome, Ph.C., B.S.
Silas Franklin Scott, B.S., *Michigan Agricultural College,* Ph.C. 2-21

HOMOEOPATHIC MEDICAL COLLEGE

DOCTOR OF MEDICINE

Harold Hill Baker
M. Andrews Bunker
Bertha Anne Davis
Alexander Sanders DeWitt
Minetta Celina Flinn
Lewis Edward Inman
Ethel May Knisely
Helen Lee, A.B.
Harlen MacMullen
William Frank Maxwell
†Llewella Maria Merrow
Henry Clyde Telford 12

COLLEGE OF DENTAL SURGERY

DOCTOR OF DENTAL SURGERY

James Owen Adams
Leonard Copeland Austin
Clayton Garfield Bailey
James Alfred Burrill
Leonard Burnham Chapin
William Frederick Dodsley, LL.B.
Henry Seth Edmonds
Raymond Newell Fisher
†Frederick Charles Godfrey
Russell George Gordanier
Arthur Charles Hamm
Bert H. Honeywell
Clare Addison Howland
Bertrand John Howlett
William Gordon Slaughter Letterman
Bert Courtnay Le Vanseler
Robert McCann
William F. B. McDonald
Arthur Francis Marvin
Ralph Fern Merritt
Henry Bush Moore
John Walter Needles, A.M., *University of Colorado*
Charles Bradish Newcomb
Glenn Scott Patterson
†De Lyle Warren Peterson
William Louis Rarden
George Clayton Richardson
Clifford Clark Robinson
Ray Lynn Sexton
Clayton Frank Bloomfield Stowell
Eugene Frederic Strom, D.D.S., *Chicago College of Dental Surgery*
George Franklin Terry
James Dean Terry
Edward George Weeks
George Conrad Weideman
Irving Lovette Wheeler
Albert Edward Wilson 37

DOCTOR OF DENTAL SCIENCE

Marcus Llewellyn Ward, D.D.S. 1-38

HONORARY DEGREES

MASTER OF ARTS

Clarence Monroe Burton
Mary Clare Spencer 2

DOCTOR OF SCIENCE

William Wallace Campbell 1

DOCTOR OF LAWS

Theodore Andrew McGraw
Henry Smith Pritchett
William Warner 3-6

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FACULTIES AND STUDENTS†

Department of Literature, Science, and the Arts

FACULTY

JAMES B. ANGELL, LL.D., *President*
MARTIN L. D'OOGE, PH.D., LL.D., D.LITT.
ISAAC N. DEMMON, A.M., LL.D.
*ALBERT H. PATTENGILL, A.M.
WOOSTER M. BEMAN, A.M.
VICTOR C. VAUGHAN, PH.D., M.D., LL.D.
CHARLES S. DENISON, M.S., C.E.
HENRY S. CARHART, A.M., LL.D.
RAYMOND C. DAVIS, A.M.
HENRY C. ADAMS, PH.D., LL.D.
RICHARD HUDSON, A.M., LL.D., *Dean*
ALBERT A. STANLEY, A.M.
FRANCIS W. KELSEY, PH.D.
OTIS C. JOHNSON, PH.C., A.M.
ANDREW C. McLAUGHLIN, A.M., LL.B.
ISRAEL C. RUSSELL, C.E., LL.D.
WARREN P. LOMBARD, A.B., M.D.
JACOB REIGHARD, PH.B.
THOMAS C. TRUEBLOOD, A.M.
JAMES A. CRAIG, PH.D.
J. PLAYFAIR McMURRICH, PH.D.
ROBERT M. WENLEY, Sc.D., LL.D.
GEORGE HEMPL, PH.D., LL.D.
ARTHUR G. CANFIELD, A.M.

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†In the following lists a dagger (†) preceding a student's name indicates that he pursued studies, for the whole or a part of the year, in more than one department of the University.

*Deceased.

WILLIAM H. PAYNE, PH.D., LL.D., D.LITT.
FRED N. SCOTT, PH.D.
MAX WINKLER, PH.D.
FREDERICK G. NOVY, SC.D., M.D.
EDWARD D. CAMPBELL, B.S.
ALLEN S. WHITNEY, A.B.
FILIBERT ROTH, B.S.
G. CARL HUBER, M.D.
FRED M. TAYLOR, PH.D.
ALEXANDER ZIWET, C.E.
KEENE FITZPATRICK
MOSES GOMBERG, SC.D.
GEORGE W. PATTERSON, PH.D.
FREDERICK C. NEWCOMBE, PH.D.
JOHN O. REED, PH.D.
WILLIAM J. HUSSEY, B.S.
ALFRED H. LLOYD, PH.D.
JOSEPH H. DRAKE, PH.D., LL.B.
MORITZ LEVI, A.B.
WALTER DENNISON, PH.D.
EARLE W. DOW, A.B.
JOSEPH L. MARKLEY, PH.D.
CHARLES H. COOLEY, PH.D.
GEORGE REBEC, PH.D.
EDWARD D. JONES, PH.D.
JULIUS O. SCHLOTTERBECK, PH.D., PH.C.
S. LAWRENCE BIGELOW, PH.D.
WALTER B. PILLSBURY, PH.D.
*PAUL R. DE PONT, A.B., B.S.
JOHN A. FAIRLIE, PH.D.
JOHN R. EFFINGER, PH.D.
TOBIAS DIEKHOFF, PH.D.
HENRY A. SANDERS, PH.D.
JAMES W. GLOVER, PH.D.
LOUIS A. STRAUSS, PH.D.
ALFRED H. WHITE, A.B., B.S.
ARTHUR L. CROSS, PH.D.
JONATHAN A. C. HILDNER, PH.D.
CLAUDE H. VAN TYNE, PH.D.
EDWARD H. KRAUS, PH.D.
CLARENCE L. MEADER, PH.D.
JOHN S. P. TATLOCK, PH.D.
HUGO P. THIEME, PH.D.
WALTER MULFORD, B.S.A., F.E.
DAVID M. LICHTY, M.S.
WARREN W. FLORER, PH.D.
JAMES B. POLLOCK, SC.D.

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*Deceased.

EWALD BOUCKE, Ph.D.
WILLIAM H. BUTTS, A.M.
ARTHUR W. SMITH, Ph.D.
HARRISON M. RANDALL, Ph.D.
FREDERICK L. DUNLAP, Sc.D.
JOSEPH M. THOMAS, A.M.
CARL E. EGGERT, Ph.D.
RAYMOND PEARL, Ph.D.
ARCHIE B. PIERCE, Ph.D.
THEODORE R. RUNNING, Ph.D.
LOUIS C. KARPINSKI, Ph.D.
LYMAN F. MOREHOUSE, A.M.
PETER FIELD, Ph.D.
EDWARD B. ESCOTT, M.S.
WILLIAM MARSHALL, M.S.
HELEN E. BROOKS, M.D.
JOHN DIETERLE, A.M.
CLARENCE B. MORRILL, A.M.
GEORGE P. BURNS, Ph.D.
WILLIAM J. HALE, Ph.D.
CHARLES P. WAGNER, Ph.D.
MYRA B. JORDAN
THEODORE de LAGUNA, Ph.D.
ALICE L. HUNT
JOHN W. SCHOLL, A.M.
CHARLES C. ADAMS, M.S.
HARRISON S. SMALLEY, Ph.D.
GEORGE L. HAMILTON, Ph.D.
RICHARD R. KIRK, A.M.
RICHARD D. T. HOLLISTER, A.M.
WILLIAM D. HENDERSON, A.M.
CALVIN H. KAUFFMAN, A.M.
JOHN W. BRADSHAW, Ph.D.
HORATIO H. NEWMAN, Ph.D.
CALVIN O. DAVIS, A.M.
ROY W. SELLARS, A.B.
HARRY C. THURNAU, A.M.
WALTER B. FORD, Ph.D.
RUBEN W. BALCOM, Ph.D.
HERBERT A. KENYON, A.M.
OTTO C. GLASER, Ph.D.
DANA B. CASTEEL, Ph.D.
HOBART H. WILLARD, A.M.
WILLIAM A. McLAUGHLIN, A.B.
THOMAS E. RANKIN, A.M.
KARL W. ZIMMERSCHIED, A.B., M.S.
LEE H. CONE, Ph.D.
CHARLES B. NEWCOMER, Ph.D.
SAMUEL C. LIND, Ph.D.

CHARLES B. VIBBERT, A.B.
CLYDE E. LOVE, A.B.
WILLIAM V, N. GARRETSON, M.S.
FRANK B. MARSH, A.B.
JOHN R. BRUMM, A.B.
HAROLD P. BREITENBACH, A.M.
J. LESLIE FRENCH, PH.D., B.D.
JOHN G. WINTER, A.M.

Other Instructors and Assistants

FRANCES J. DUNBAR, A.B.
ALFRED DACHNOWSKI, A.M.
JOHN F. SHEPARD, B.S.
OSCAR H. WURSTER, A.B.
WILLIAM J. MARSHALL, A.B.
NELSON F. MACDUFF, A.B.
CARLOS P. LONG, A.B.
FRANK J. MELLENCAMP, A.B.
ALLEN M. KLINE, A.M.
WALTER F. HUNT, A.M.
CHARLES W. COOK, A.B.
HERBERT W. CLARK, A.B.
CHARLES W. BURROWS, A.M.
MAHLON E. OLSEN, A.B.
CHARLES L. HARPHAM, A.B.
MANSON A. STEWART, A.M.
MYRTIE L. PERRIGO, A.B.
HARRY N. COLE, A.B.
OSWALD F. BOUCKE, A.B.
WALTER W. DAVIS, A.B.
HENRY W. NEWMAN, A.B.
JACOB MOYER, A.B.
FRANK E. ANDREWS, B.S.

STUDENTS

GRADUATES*

NAME	RESIDENCE
Charlotte Zulima Aldrich, Ph.B., *Albion College,* 1896 American History; European History; History of Education	*Holt*
Joseph Emanuel Alexander Alexis, A.B., *Augustana College,* 1905 Hebrew; Hellenistic Greek; Semitic History	*Whitehall*
Frank Eugene Andrews, B.S., 1900 Physics; Mathematics; Electrical Engineering	*Ann Arbor*
George William Barnum, A.B., 1905 American History; Constitutional Law; Political Philosophy	*Ann Arbor*
Arthur Granville Beach, A.B., *Marietta College,* 1891, B.D., *Yale Divinity School,* 1896	*Ypsilanti*
John Knight Munro Berry, A.B., 1901, A.M., 1902 German Literature; Germanic Philology; General Linguistics	*Ypsilanti*
William Edward Bohn, A.B., *German Wallace College,* 1899, A.M., *Ohio State University,* 1900 Rhetoric; English Literature; Aesthetics	*Ann Arbor*
Oswald Frederic Boucke, A.B., 1905 European History; Sociology; English History	*Bremerhaven, Germany*
Harold Prell Breitenbach, A.B., 1901, A.M., 1903 Rhetoric; English Literature; Aesthetics	*Detroit*
John R. Brumm, A.B., 1904 Rhetoric; Sociology; Aesthetics	*Nashville*
Warren David Brush, B.S., *Baldwin University,* 1905 Botany; Zoology; Botanical Ecology	*Berea, O.*
Charles William Burrows, A.B., 1898, A.M., 1901 Physics; Mathematics; Physical Chemistry	*Ann Arbor*
Elizabeth Margaret Bush, A.B., 1905 American History; Early English Literature; English History	*Saginaw*
Orma Fitch Butler, A.B., 1897, A.M., 1901 Latin; Roman Law; Greek	*Ann Arbor*
James Andrew Campbell, A. B., 1901 German Literature; German Philology; Pedagogy	*Ann Arbor*
James Allen Canby, A.B., *Bethany College,* 1896 Ethics; History of Philosophy; Sociology	*Ann Arbor*
Herbert Watson Clark, A.B., 1905 Rhetoric; Aesthetics; English History	*Las Vegas, New Mex.*

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*The subjects of study pursued by candidates for an advanced degree are indicated under their respective names, the subject first named being the major study.

Frances Elizabeth Clarke, B.L., 1900 — *Albion, N. Y.*
Rhetoric; Anglo-Saxon; Aesthetics
Edward Clinton Clifford, B.S., *University of Maine,* 1904 — *Woodfords, Me.*
Forest Management; Silviculture; Mensuration
Walter Francis Colby, A.B., 1901 — *Ann Arbor*
Physics; Mathematics; Mechanics
Mabel Rebekah Collins, Ph.B., *Albion College,* 1897 — *Ann Arbor*
Latin; Roman Political Institutions; German
Alfred Cook, A.B., *Northwestern University,* 1877, Ph.D., *University of Halle,* 1886 — *Plano, Ill.*
Charles Wilford Cook, A.B., 1904 — *Fenton*
Analytical Chemistry; Mineralogy; Commerce
Lotta Fayette Copley, A.B., 1905 — *Decatur*
Latin; German; English Literature
Alfred Dachnowski, A.B., *Taylor College,* 1897, A.M., *ibid.,* 1900, *Angeline Bradford Whittier Fellow in Botany* — *Ann Arbor*
Plant Physiology; Botany; Philosophy
Calvin Olin Davis, A.B., 1895, A.M., 1904 — *Ann Arbor*
History of Education; Theory of Education; History of Modern Philosophy
Walter Wiley Davis, A.B., *Ohio Wesleyan University,* 1903 — *Kingston, O.*
Physics; Analytical Chemistry; Mathematics
Grace Andrus de Laguna, A.B., *Cornell University,* 1903 — *Tacoma, Wash.*
Mary den Bleyker, A.B., *University of Chicago,* 1901 — *Kalamazoo*
Botany; Zoology; General Chemistry
Willard Melvin Drake, A.B., *Bates College,* 1902 — *Auburn, Me.*
Forest Management; Silviculture; Mensuration
Winthrop Davenport Foster, A.B., *Williams College,* 1904 — *Auburndale, Mass.*
Silviculture; Dendrology; Forest Management
John Sharpless Fox, A.B., *Haverford College,* 1902, *Peter White Fellow in American History* — *Ann Arbor*
American History; Political Science; Philosophy
Earl Hazeltine Frothingham, A.B., 1904 — *Chicago, Ill.*
Forest Management; Silviculture; Forest Mensuration
Charles Edwin Galloway, A.B., 1902, *George S. Morris Fellow in Philosophy* — *Fond du Lac, Wis.*
Psychology; History of Philosophy; Physiology
Evelyn Gail Gardiner, A.B., *Vassar College,* 1904 — *Detroit*
Political Economy; Government; Sociology
Adelaide Gemberling, A.B., 1902, A.M., 1905 — *Ann Arbor*
General Chemistry; Organic Chemistry; Mathematics
Katherine Reeves George, A.B., 1903 — *Ann Arbor*
English Literature; American Literature; Rhetoric

Frances Sweet Gibson, A.B., *Albion College*, 1902 — *Otsego*
Latin; German; Roman Political Antiquities

Minnie Almira Graham, A.B., *Mount Holyoke College*, 1900 — *Lockport, N. Y.*
Physical Chemistry; Analytical Chemistry; Mineralogy

Edna Grant, A.B., *Oberlin College*, 1904 — *Oberlin, O.*
Rhetoric; English Literature; Aesthetics

Charles Leroy Harpham, A.B., 1904 — *Ann Arbor*
Political Economy; Private Finance; Industrial American History

William D. Henderson, A.B., 1903, A.M., 1904 — *Ann Arbor*
Physics; Physical Chemistry; Mathematics

Rufus Percival Hibbard, A.B., *Williams College*, 1899, *Dexter M. Ferry Fellow in Botany* — *Gloucester, Mass.*
Botany; Morphology of Algae; Zoology

Nina Maude Houser, A.B., 1905 — *Michigan City, Ind.*
Rhetoric; American History; English Literature

Estelle Louise Hunt, A.B., 1905 — *Houghton*
English Literature; Rhetoric; French

Walter Fred Hunt, A.B., 1904, A.M., 1905 — *Glendale, O.*
Mineralogy; Analytical Chemistry; Dynamical Geology

Anna Joseph, A.B., *University of Kansas*, 1905 — *Potwin, Kan.*
Oratory; Rhetoric; English

Homer Walker Josselyn, A.B., 1905 — *Detroit*
American History; English History; Political Economy

Calvin Henry Kauffman, A.B., *Harvard University*, 1896 — *Ithaca, N. Y.*
Plant Physiology; Mycology; Organic Chemistry

Richard Ray Kirk, A.B., 1903, A.M., 1904 — *Ann Arbor*
Rhetoric; English Literature; Aesthetics

Allen Marshall Kline, A. B., 1904, A.M., 1905 — *Elsie*
American History; European History; Political Science

George Allan Lindsay, A.B., 1905 — *Detroit*
Physics; Mathematics; Astronomy

Carlos Pointon Long, A.B., 1905 — *Rogersville*
Organic Chemistry; Physical Chemistry; Mineralogy

Marea Daisy Longwell, A.B., 1901 — *Paw Paw*
English Literature; German Literature; American History

William Arnold Ludwig, B.S., 1900 — *Ann Arbor*
Physics; Heat; Physical Chemistry

Nelson Ferris Macduff, A.B., 1905 — *Jackson*
Forest Management; Silviculture; Plant Physiology

Carl Hugh McLean, A.B., 1902 — *Schoolcraft*
American History; English History; Education

Amelia Elizabeth McSweeney, A.B., 1891 — *Detroit*
Latin; Greek; Philosophy

Frank Burr Marsh, A.B., 1902 — *Big Rapids*
European History; Political Institutions; Sociology

Frank John Mellencamp, A.B., 1903 — *Ypsilanti*
Physics; Mathematics; Analytical Chemistry

Frank Benjamin Moody, A.B., *Bates College*, 1902 — *North New Portland, Me.*
Forest Management; Mensuration; Timber Physics

Clarence Burton Morrill, B.L., 1900, A.M., 1903 *Ann Arbor*
Rhetoric; English Literature; Aesthetics
Jacob Moyer, A.B., *Greenville College*, 1901 *Spring Arbor*
Analytical Chemistry; General Chemistry; Mineralogy
Edla Maud Niles, Ph.B., 1898 *Ann Arbor*
Latin; Roman Political Institutions; Classical Archæology
Mahlon Ellsworth Olsen, A.B., 1905 *Battle Creek*
Rhetoric; English Literature; Aesthetics
Carl Safford Patton, A.B., *Oberlin College*, 1888 *Ann Arbor*
Hebrew; Hellenistic Greek; Philosophy
Myrtie Leah Perrigo, A.B., 1905 *Allegan*
European History; American History; Sociology
Frank Jay Phillips, A.B., 1905 *Grand Rapids*
Forest Management; Plant Physiology; Silviculture
Clyde Edwin Pickett, A.B., *Hiram College*, 1901 *Shepherd*
Ethics; History of Philosophy; Sociology
Thomas Ernest Rankin, A.B., 1898, A.M., 1905 *Ann Arbor*
Rhetoric; Aesthetics; English Literature
Homer Elmer Robbins, A.B., 1905 *Ann Arbor*
Latin; German Literature; Roman Political Institutions
Adolph Marius Rovelstad, A.B., *St. Olaf College*, 1903 *Elgin, Ill.*
Latin; Greek; General Linguistics
Alexander Grant Ruthven, B.S., *Morningside College*, 1903 *Ruthven, Ia.*
Zoology; Physiology; Physiography
Hideo Sakuma, *Doshisha College*, A.M., 1905 *Tango, Japan*
Finance; Political Economy; Municipal Administration
Ernst Schmitz, A.B., 1905 *Detroit*
German; English Literature; American History
Howard Lesher Schug, A.B., 1904 *Ann Arbor*
German; English Literature; Latin
Arthur Francis Schultz, Ph.B., *Albion College*, 1894 *Lansing*
Pedagogy; Political Economy; American History
Irving Day Scott, A.B., *Oberlin College*, 1900 *Syracuse, N. Y.*
Mineralogy; Chemistry; Commerce
Margaret E. Deshler Shearer, A.B., 1905 *Ann Arbor*
Greek; Greek Archæology; French Literature
John Frederick Shepherd, B.S., *Saint Lawrence University*, 1901 *Whitehall, Ill.*
Psychology; Neurology; Philosophy
Elisabeth Ethel Sinclair, A.B., 1904, A.M., 1905, *Newberry Classical Fellow* *Port Huron*
Greek; Greek Archæology; Latin
Mary Louise Smith, A.B., 1905, *Peter White Classical Fellow* *Ann Arbor*
Latin; Roman Political Institutions; German
Manson Alexander Stewart, A.B., 1903, A.M., 1904 *Elba*
Latin; Greek; Ancient Philosophy

Mallory Napoleon Stickney, A.B., 1905 *Lapeer*
Forest Management; Silviculture; Dendrology
Ninosuke Tanaka, *Peers College (Tokyo)* *Tokyo, Japan*
Finance; Political Economy; International Law
Margaret Lloyd Tatlock, A.B., 1905 *Ann Arbor*
Aesthetics; Metaphysics; Rhetoric
Joseph Morris Thomas, Ph.B., 1898, A.M., 1903 *Ann Arbor*
Rhetoric; Logic; English Literature
Harry Conrad Thurnau, A.B., 1899, A. M., 1903 *Ann Arbor*
German Literature; Germanic Philology; English Literature
Ole Tonning, A.B., *Luther College,* 1904 *Decorah, Ia.*
German Literature; Germanic Philology; European History
Donald Dexter Van Slyke, A.B., 1905 *Geneva, N. Y.*
Organic Chemistry; Plant Physiology; Bacteriology
Frank van Vliet, A.B., 1902 *Ann Arbor*
History of Philosophy; Metaphysics; Mathematics
Theodore Edward Wagner, A.B., 1905 *Detroit*
Physics; Physical Chemistry; Astromony
Charlotte Hall Walker, A.B., 1900 *Ann Arbor*
Physics; Zoology; International Law
Ida Margaret Walz, A.B., 1905 *Harrisburg, Pa.*
German Literature; English Literature; European History
Francis William Wetmore, B.S., *Knox College,* 1900 *Oneida, Ill.*
Forest Management; Silviculture; Spanish
George Rufus Wheeler, A.B., *Albion College,* 1905 *Shelby*
English Literature; History; Rhetoric
Wilfred Wallace White, B.S., *Haverford College,* 1900, M.S., *Penn College,* 1900 *Chicago, Ill.*
Forest Management; Silviculture; Botany
Hobart Hurd Willard, A.B., 1903, A.M., 1905 *Oskaloosa, Ia.*
Analytical Chemistry; Organic Chemistry; Physics
John Garrett Winter, A.B., *Hope College,* 1901, A.M., 1904, *Buhl Classical Fellow* *Holland*
Latin; Greek; Ancient Philosophy
Wallace Kirtland Wonders, A.B., 1905 *Detroit*
Economics; Sociology; Commerce
Herbert Hollingsworth Woodrow, A.B., 1904 *Ann Arbor*
Psychology; Neurology; Physiology
Loura Bayne Woodruff, A.B., 1895, A.M., 1899, *Buhl Classical Fellow* *Ann Arbor*
Latin; Greek Archæology; Ancient Philosophy
Oscar Herman Wurster, A.B., 1905 *Ann Arbor*
General and Physical Chemistry; Analytical Chemistry; Mineralogy

The following student, enrolled in the Department of Law, is also a candidate for an advanced degree in the Department of Literature, Science, and the Arts:

Fabian Bouton Dodds, A.B., 1905 *Mount Pleasant*
Geology; Ethics; American History

The following students, having completed their undergraduate course at the University at the close of the first semester, 1906, were allowed registration in the Graduate School:

Vida Lucetta Holtzman German; English Literature; Pedagogy	*Vernon*
Carrie H. Templeton English Literature; Rhetoric; American Literature	*Akron, Ind.*
George Theodore Thorward Forest Management; Forest Mensuration; Forest Utilization	*South Bend, Ind.*
Frederic Wilson Willard Organic Chemistry; Physical Chemistry; Physics	*Erie, Pa.*
Anna Wurster Latin; German Literature; Classical Archæology	*Ann Arbor*

UNDERGRADUATES*

NAME	CREDIT	RESIDENCE
Fred Mortimer Abbott	S	*Ann Arbor*
Alice Dunning Adams		*Prescott, Ariz.*
Elmer Cleveland Adams	30	*Scottland, Ill.*
†Winifred Adams, *h*		*Kansas City, Mo.*
Vera Adamson	24	*Akron, O.*
Clarence James Agnew		*Stillman Valley, Ill.*
James Howard Agnew, *m*	61	*Lorain, O.*
Thomas Negley Aiken	S	*Pittsburg, Pa.*
Asa Le Grande Albee		*Grand Rapids*
Noah Ray Alber		*N. Manchester, Ind.*
Ada Dot Allen	56	*Clinton*
Harry Earl Allen		*Van Wert, O.*
Hugh Pitzer Allen	97	*Tacoma, Wash.*
†James Frederick Allen, *p*		*Marysville*
Mabel Emily Allen	92	*Grand Rapids*
Maude Alene Allen	38	*Pontiac*
Augusta Elise Amundson	S	*Valley City, N. Dak.*
Alfred John Anderson		*Akron, N. Y.*
Crawford Anderson		*Portsmouth, O.*
Eveline Louise Anderson	92	*Houston, Minn.*

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*The figures in the column headed Credit indicate the number of hours of work taken by candidates for a degree prior to the beginning of the current academic year, 1905-1906, and completed without conditions, or credited to them on advanced standing. By an hour of work is meant the equivalent of one exercise a week for one semester. The letter S indicates that the student is pursuing miscellaneous studies without being registered as a candidate for a degree. A dagger (†) preceding a student's name indicates that he also pursued studies, for the whole or a part of the year, in some other department of the University, indicated by an italic letter following the name, to-wit: *e*, Department of Engineering; *m*, Department of Medicine and Surgery; *l*, Department of Law; *p*, School of Pharmacy; *h*, Homœopathic Medical College; *d*, College of Dental Surgery. The letter following the name (without the dagger) indicates that the student is pursuing a combined course, leading to a degree in each of the two departments.

Kenneth Boynton Anderson		*Tecumseh*
Mary Elizabeth Anderson	61	*Sidney, O.*
Nelson Reed Anderson, *l*	94	*Portsmouth, O.*
Ralph Morrey Anderson	63	*Bay City*
Mabel Angevine		*Jackson*
Charlotte Smith Angstman	30	*Detroit*
William Boden Anscomb, *l*	93	*Detroit*
Effie Jane Armstrong	98	*Lapeer*
Eleanor Armstrong	91	*Fenton*
Frank Lindslay Armstrong		*Ann Arbor*
Henry Irwin Armstrong, Jr.	4	*Detroit*
Howard Goodell Armstrong	92	*Ann Arbor*
Philip McCutcheon Armstrong	23	*Detroit*
Harry Loren Arnold		*Owosso*
Louise Arnold	56	*Saginaw*
June Maude Ashley	35	*Ithaca*
Orah May Ashley	28	*Ithaca*
Elsie Ellsworth Atkins	28	*Escanaba*
Robert Francis Atkins	83	*Escanaba*
Edwina Altha Auerswald		*Ann Arbor*
Frank Ayres	30	*Indianapolis, Ind.*
Elizabeth Josephine Babcock		*Wyandotte*
Lois Bach		*Howell*
Anna May Bacon	28	*Pontiac*
Helen Bacon		*Detroit*
Joseph Repford Baer		*Piqua, O.*
Leon Milburn Bailey		*Fairbury, Neb.*
Lorin Harvey Bailey	90	*Beloit, O.*
Jesse Burdette Bain		*Kennedy, N. Y.*
Alice Mary Baker	92	*Grand Blanc*
Florence Elizabeth Baker	8	*Bay City*
Forrest Ray Baker	60	*Ripley, N. Y.*
Grace Amanda Baker		*Nashville*
Looe D. Baker, Jr., *m*	97	*Spring Lake*
May Louise Baker	38	*Bay City*
Bertha Jane Baldwin	89	*Oxford*
Edna Jane Bandfield	56	*Portland*
Florence Alice Banister		*Flint*
Thomas Ambrose Banta		*Buffalo, N. Y.*
Howard L. Barkdull		*Toledo, O.*
Mabel May Barker	S	*Ann Arbor*
Lewis Barnard	8	*Saginaw*
George Albert Barnes	85	*Howell*
Mary Susanna Barnes	14	*Howell*
Orlando Mack Barnes, *l*	93	*Lansing*
Rudolph Artilles Bartholomew	30	*Valparaiso, Ind.*
Ruth Helen Bartlett	30	*Potsdam, N. Y.*
Lindsay Wilson Baskett, *m*	90	*Van Alstyne, Tex.*

Arthur Adolph Basse, LL.B.	S	*Chicago, Ill.*
Morton Ayres Bassett		*Chicago, Ill.*
Ezra Baumann, A.B., *German Wallace College*	90	*North Amherst, O.*
LeRoy Baumgartl	32	*Chicago, Ill.*
Frederick Herbert Baxter		*Lima, O.*
Harold Alexander Baxter		*Fort Wayne, Ind.*
James Harvey Baxter	93	*Lawrence*
Francis Ray Baylis	56	*Jackson*
Henricka Bryant Beach		*Ann Arbor*
Amos Llewellyn Beaghler, *m*	82	*Ann Arbor*
Una Rachel Beaghler		*Ann Arbor*
William Waite Beardsley	31	*Ann Arbor*
Charles C. Becher		*Brookville, O.*
Walter B. Beck		*Bowling Green, O.*
Edgar Daniel Becker		*Evansville, Ind.*
Ray Everett Becker		*Fenton*
Henry Edwin Beebe, Jr.		*Sidney, O.*
Charles Leonard Bell	11	*Clinton, Ia.*
Mabel Elisabeth Bell	16	*Port Huron*
Fred Bellinger		*Mount Pleasant*
Leona Mary Belser	30	*Ann Arbor*
Albert Sidney Benham	S	*Ann Arbor*
Lulu Eunice Benham		*Chilson*
Cecil Fillmore Bennett		*Granite, Okla.*
Harold Franklin Bennett		*Ann Arbor*
†Mabelle Marie Bennett, D.D.S., *d*	110	*Ann Arbor*
Mary Lovisa Bennett	20	*Big Rapids*
Daisy Ellen BenOliel	S	*Ann Arbor*
Edward Munroe Benson	61	*Detroit*
Walfred Benson	65	*Traverse City*
Eugene Thomas Bermingham		*Galena, Ill.*
Horace Weir Best		*Oberlin, O.*
Bessie I. Bigelow	34	*Owosso*
Katherine Birney		*Lansing*
William McDowell Birney		*Washington, D. C.*
Rollin Otis Bisbee	46	*Bad Axe*
Dorothea Bishop	27	*Eau Claire, Wis.*
Harry William Bishop		*Chicago, Ill.*
John Wesley Bishop	40	*Ypsilanti*
Lucy Caroline Bishop	90	*Eau Claire, Wis.*
†Russell Spencer Bishop, *c*	30	*Flint*
Lucy Black		*Fort Dodge, Ia.*
Nancy Gertrude Blake		*Escanaba*
Albert Stewart Blakely		*Shelbyville, Ind.*
Kittie Lynn Blakeney		*Grand Haven*
Philip Israel Blakesly	30	*Dayton, O.*
Glynn Farnsworth Blanchard	91	*Ann Arbor*

Guy Paul Bliss	60	*Plainwell*
Webster Edwin Bliss	46	*Deerfield*
Herbert Bloch		*Cincinnati, O.*
Samuel Frederick Block	30	*Platteville, Wis.*
Bertha Blount	56	*Phoenix, Ariz.*
Ethyl May Blum	53	*Ann Arbor*
Eva Alice Bogle	65	*Ann Arbor*
Lois Bogle		*Ann Arbor*
Armin Albert Bohn		*Indianapolis, Ind.*
Frank Bohr	63	*Troy, Kan.*
Edward Jenkins Bolt		*Saint Louis, Mo.*
Ada Isabella Bond		*Vulcan*
Bernice Louise Bond	99	*Austin, Ill.*
Myrtle Grace Bond	93	*Canastota, N. Y.*
John Northrup Booth, A.B., *Alma College*	90	*Alma*
Amy Delphine Bordwell	64	*Jackson*
Chauncey Samuel Boucher		*Marion, Ind.*
Willoughby Deuel Boughton	32	*Grand Rapids*
Joseph Nicholas Bourg		*Woodmere*
Lillian Bowie	86	*Rockford, Ill.*
Edna Elizabeth Bowman		*Caledonia*
Horatio Job Bowman		*Alton, Ill.*
Nellie Grace Bowman	83	*Three Rivers*
Ward Simon Bowman	23	*Caledonia*
Guy Bowser	31	*Goshen, Ind.*
John Howard Boyd		*Chelsea*
Francis Donald Boyer	62	*Bradford, Pa.*
Lawrence Ray Boyer	92	*Niles*
Bernice Margaret Bradford	S	*Bear Lake*
Merle Harrison Bradish	94	*Lansing*
Glenn Danford Bradley	64	*Kinderhook*
Helen Carolyn Bradley		*Putnam, Conn.*
Lena Brady	S	*Union City, Ind.*
Allan Degraffenreid Brand	S	*Saint Louis, Mo.*
Anna Braudy	87	*Grand Rapids*
Rosa Braudy	45	*Grand Rapids*
Carl William Braun		*Toledo, O.*
Nora Regina Braun	S	*Ypsilanti*
Eugenia Marie Bray	90	*Grosse Pointe Farms*
Dora Brayman	90	*Michigan City, Ind.*
Margaret McCargar Breck		*Lansing*
Cecilia Marian Brennan	S	*Ann Arbor*
Kennicott Brenton		*Chicago, Ill.*
Benjamin Briton Briant	20	*Huntington, Ind.*
Olga Louise Bridgman	26	*Jackson*
Estelle Charlotte Briggs	30	*Ann Arbor*
Mabel Satterlee Briggs	95	*Lansing*

Beulah Evangeline Brigham	88	*Grand Rapids*
Breta Manning Brigham	91	*Grand Rapids*
Jessie Florence Brinkman	S	*Rolfe, Ia.*
George Hubert Bristol	63	*Chicago, Ill.*
Lotta Belle Broadbridge	92	*Marine City*
Georgiana Laurine Broadwell		*Alpena*
Bruce John Broady		*Quincy, Ill.*
Richard Wilhelm Broecker		*Goodrich*
Helen Hargrave Brooks	41	*Saginaw*
Anna Broomhall	90	*Ann Arbor*
Dorothea Josephine Brotherton		*Detroit*
Alonzo Blaine Brower	30	*Dayton, O.*
Frances Brown	26	*Rockford, Ill.*
Genevieve Pearl Brown	59	*Lansing*
Genevieve Ward Brown		*Niles*
Harold Sigler Brown	46	*Brooklyn, N. Y.*
Hearty Earl Brown	14	*Agricultural College*
Henrietta May Brown	34	*Jackson*
Margretta Cheeseman Brown	52	*Ann Arbor*
Mary Frances Brown	30	*Lestershire, N. Y.*
May Brown	92	*Ann Arbor*
William Benjamin Bryant, *m*	96	*Dayton, O.*
Harold Norton Buckley	91	*Constantinople, Turkey*
Olive Bucks	40	*Aurora, Ill.*
Martha Nancy Bull	61	*Rockford, Ill.*
Glenn Allen Bulson, *m*	93	*Jackson*
Henry Alfonso Bundschu		*Independence, Mo.*
Rose E. Bunning		*Cleveland, O.*
Alberta Irene Burmeister	30	*Onekama*
Abram David Burr, *m*	60	*Charlotte, N. Y.*
Robert Nathan Burton		*Oak Park, Ill.*
Frederick Harrison Busby	30	*Marshalltown, Ia.*
Alden Marland Bush, *m*	88	*Denver, Col.*
Guy Frederick Bush, *l*	92	*Hudson*
Howard J. Bush, *m*	91	*Fenton*
Fannie Grose Butler	61	*Boston*
Louise Agnes Butler	62	*Ann Arbor*
Archibald Drake Butterfield	74	*Grand Rapids*
Isaac Lawrence Butterfield, *l*	90	*Grand Rapids*
Leslie Ernest Butterfield		*Belfast, N. Y.*
Anna Beaumont Butz	S	*Jonesville*
Hugh Stone Calkins	110	*Allegan*
Annie Hester Campbell	88	*Ypsilanti*
Florence Margaret Campbell		*Bay City*
Henry Munro Campbell, Jr.	30	*Detroit*
Howard Hugh Campbell		*Alpena*
Myrtle Pearle Campbell	101	*Forestville, N. Y.*
Annabel Carey	62	*Upper Sandusky, O.*

Eleanor Jerome Carey		*Eastlake*
Florence Amelia Carey	46	*Lapeer*
Margaret Carey	91	*Upper Sandusky, O.*
Leola Maud Carleton		*Detroit*
Cora Louise Carlson	45	*Bessemer*
Chester Sherman Carney	98	*Bay City*
Robert John Carney	61	*Sturgis*
Kate Hanford Carpenter	30	*Washington, D. C.*
Lucy Ida Carpenter		*Helena, Mont.*
Henrietta Carr	12	*Detroit*
Helen M. Carrett		*Niles*
Henry Rohnert Carstens		*Detroit*
Adeline Beulah Carter	26	*Guthrie, Okla.*
Earl Bowers Carter	58	*Upper Sandusky, O.*
Gail Luke Carver	66	*Climax*
Bessie Marsh Cass	66	*Romeo*
Bertha Esther Cassidy		*Ann Arbor*
Thomas Richard Cassidy		*Ann Arbor*
Mary Elizabeth Caughey	92	*Erie, Pa.*
Leon Leslie Caviness	88	*Battle Creek*
Fred Thayer Cawood	63	*Sullivan, Ill.*
Edmund Bigelow Chaffee		*Ann Arbor*
Florence M. Chamberlain		*Marion, O.*
Henry Francis Chaney	2	*Gibralter*
Helen Maude Chapin	S	*Boonville, N. Y.*
Mary Loretta Chapman	30	*Pontiac*
John Givin Chase		*Des Moines, Ia.*
Lew Allen Chase	S	*Elsie*
Sarah Voorheis Chollar, Ph.B., *Illinois Wesleyan College*	90	*Potsdam, N. Y.*
Clare Leroy Christie		*Corry, Pa.*
Henry Ward Church	34	*Saint Joseph*
Ralph Edwin Church	62	*Catlin, Ill.*
Thomas Clancey	29	*Ishpeming*
Robert Henry Clancy	S	*Detroit*
Frank J. Clark	92	*Battle Creek*
John Jerome Clark	18	*Grosse Pointe Farms*
Lewis Carlile Clark	30	*Butte, Mont.*
Robert Watson Clark	33	*West Branch*
Susan Louise Clark	S	*West Brattleboro, Vt.*
Willis Henry Clark		*Broadalbin, N. Y.*
Georgia Parsons Clarke	S	*Ann Arbor*
Irene Lillian Clarke		*Cleveland, O.*
Jane Constance Clarken	S	*Ann Arbor*
Edith Jennie Clawson	57	*Royal Oak*
Edna Abigail Clawson		*Royal Oak*
Abby Willis Cobb	93	*Denison, Tex.*
Icy Ellen Cobb	22	*Denison, Tex.*

Jane Abigail Cochrane	95	*Detroit*
Hiram Sedgwick Cody	26	*Chicago, Ill.*
Carl Jenness Coe		*Ypsilanti*
Isaac Stephen Coe	27	*Centralia, Ill.*
William Wesley Coe, Jr.	S	*Boston, Mass.*
Nina Coghlan	2	*Detroit*
Samuel J. Cohn		*Oxford*
Bessie Mae Coit		*Mantua Station, O.*
Arthur Charles Cole	63	*Ann Arbor*
†Daniel Frederic Cole, *c*	S	*Ann Arbor*
Edward Le Roy Cole		*Coloma*
William Joseph Colgan		*Rochester Junction, N. Y.*
Albert Ralph Colgrove, *l*	92	*Minneapolis, Minn.*
Vida Lucile Collins	62	*Bear Lake*
Ward Eugene Collins, *m*	91	*Decatur*
Lila Mae Colwell		*Byron Centre*
Leon Clinton Combacker, *m*	66	*Osceola, Wis.*
Mabel Louise Conat		*Detroit*
Nellie Grant Congdon	92	*Chelsea*
Maud Emma Conklin	34	*Bradford, Pa.*
Mildred Marie Conley		*Adrian*
Thomas Connery	S	*Zilwaukee*
Frank Elmer Connor		*Owosso*
Edna Juliette Converse	90	*Roscommon*
Helen Julia Converse	96	*Ann Arbor*
Richard John Cook	S	*Grand Haven*
Cecil Claybourne Cooper	62	*Ann Arbor*
Grace Beers Cooper	85	*Owosso*
Paul Dexter Cooper	S	*Flint*
Lena Marion Copley	61	*Ann Arbor*
Cullen Danforth Corliss		*Detroit*
Elizabeth Jeannette Cornell		*Sebewa*
Irene Mary Cornwell	46	*Ann Arbor*
Floy Maranda Cortright	61	*Ann Arbor*
Franklin Dwight Cossitt		*La Grange, Ill.*
Jesse Orville Cotton		*South Bend, Ind.*
Harry Everard Coughlin, *l*	99	*Big Rapids*
A. Pascal Covitz		*Chicago, Ill.*
Roy William Cowden	S	*Fredonia, N. Y.*
Mark Wentworth Cowell	104	*Peoria, Ill.*
Inez Cox		*Jackson*
Stanley Cullen Cox	30	*Holyoke, Mass.*
Clayton Archie Crandall	73	*Union City*
Olive Melvina Crandall	60	*Brocton, N. Y.*
Harry Woolven Crane		*Big Rapids*
Lloyd Tremper Crane	28	*Saginaw, West Side*
Ronald Salmon Crane	30	*Tecumseh*

Floyd William Crawford	29	*Battle Creek*
John Thrale Creighton	30	*Springfield, Ill.*
Anne Shannon Creveling	26	*Bloomsbury, N. J.*
Katherine Cribbs	60	*Oil City, Pa.*
Rebecca Louise Crittenden	92	*Mount Clemens*
Blanche Veness Crosby		*Marion, Ind.*
LaVerne Ione Crossman	S	*East Jordan*
Elwood Croul	26	*Detroit*
Maud Mueller Crump		*Washington, D. C.*
Maurice Edgar Crumpacker		*Valparaiso, Ind.*
James William Culhane		*Port Austin*
Harry Thompson Culver		*Marquette*
Hiram Wilbern Currey		*Evansville, Ind.*
Alice Louise Currie	62	*Detroit*
Charles Phelps Cushing	60	*Kansas City, Mo.*
Arthur Herman Cutler	93	*Ionia*
Mayme Gertrude Cutler	94	*Nora Springs, Ia.*
Nell Irene Cutler		*Nora Springs, Ia.*
Kathleen Eliza Cutting		*Ann Arbor*
Josephine E. Daines		*Ann Arbor*
Horace Bissell Dakin		*South Bend, Ind.*
Fred Dana		*Fond du Lac, Wis.*
John James Danhof, Jr.	63	*Grand Haven*
Carroll Salem Daniels		*Grand Rapids*
David Everett Darrah	59	*Heuvelton, N. Y.*
Leo Harvey Darrow	72	*Park Ridge, Ill.*
Wirt Edward Darrow		*Park Ridge, Ill.*
Leroy Earl Davidson, *l*	92	*Brocton, N. Y.*
Edith Davis	98	*Muskegon*
Frank Howard Davis	30	*Fremont*
Howard Dier Davis	59	*Toledo, O.*
Howard Hubbell Davis, *m*		*Cleveland, O.*
John R. Davis, Jr., *m*	62	*Mexico City, Mex.*
Marion Davis	S	*Sharpsburg, Pa.*
Eva Ruth Dawson	28	*Ann Arbor*
Maud Dawson	24	*Ann Arbor*
Bessie Elizabeth Day	89	*Chicago, Ill.*
Neva Ruth Deardorff	30	*Ann Arbor*
John William De Bruyn	60	*Holland*
Sarah Sutton De Forest	36	*Ann Arbor*
Earl Warren DeLano	61	*Allegan*
Eleanor Demmon	22	*Ann Arbor*
Malcolm Francis Denise		*Decatur*
George Bion Denton	62	*Detroit*
William Wells Denton	63	*Detroit*
Broadus Hudson De Priest	57	*Shelby, N. C.*
Sarah Bryan Derthick	21	*Ann Arbor*
Florence Anna Des Camp	74	*Detroit*

Charles Gould De Shon, Jr.	19	*Oxford*
Jules Verne Des Voignes	26	*Cassopolis*
Walter John Detwiler		*Owosso*
Clyde Leonard Dew	92	*Hanover*
Benjamin Harrison Dewey		*Clyde, O.*
Frederick Archibald Dewey	23	*New York, N. Y.*
Susan Mabel Diack	90	*Detroit*
M. Everett Dick	87	*Holland*
Willard Woodward Dicker, *m*	92	*Chicago, Ill.*
Paul Brandon Dickey	10	*Chicago, Ill.*
Andrew Jackson Dighton	30	*Monticello, Ill.*
Samuel Reed Dighton	56	*Monticello, Ill.*
†Lawrence Love Dill, *h*	S	*Lucerne, Ind.*
Harriette May Dilla	30	*Ann Arbor*
Marion Helmuth Dinsmore	S	*Sharpsburg, Pa.*
Edmund Arthur Dittman		*Cincinnati, O.*
Floyd Carlton Dockeray	62	*Grand Rapids*
Meeta Cary Donmall	89	*Niles*
Percy James Donovan		*Detroit*
Leland Dale Dorney	30	*Findlay, O.*
Euclid DeLoss Doty	18	*Findlay, O.*
Ralph Westcott Doty	30	*Ann Arbor*
Catherine Louise Douglas	30	*Calumet*
Chauncey Herbert Dowman	20	*Springfield, Pa.*
Thomas Jefferson Downen, Jr., *l*	97	*Pueblo, Col.*
Martha Downey	38	*Denver, Col.*
Margaret French Dresser	58	*Ann Arbor*
Edith Lucile Driscoll		*Corunna*
Katharine Isabelle Driscoll	50	*Corunna*
Donald Packard Drummond	30	*South Bend, Ind.*
Robert Morrison Drysdale, *l*	92	*Denver, Col.*
Paul Smith Dubuar	62	*Northville*
Charles Bagley Ducharme	98	*Detroit*
Wesley James Dudgeon	46	*Saginaw*
Helen Margaret Dudley	90	*Morrow, O.*
Gayle Albert Dull	26	*Stratford, Ont.*
Alice Gertrude Duncan	S	*Thompsonville*
Fred Sylvester Dunham	90	*Morton, N. Y.*
†Julius Sherwood Dunham, *l*		*Brocton, N. Y.*
Mary Agnes Dunham	88	*Saint Joseph*
Edward Francis Dunne, Jr.	8	*Chicago, Ill.*
Bessie Edna Dunphy	48	*Croswell*
Maude Mabel Durlin	87	*Erie, Pa.*
Willis Fayette Durlin	91	*Erie, Pa.*
Helena Lois Duschak	65	*Buffalo, N. Y.*
George Argo Duthie	30	*Grand Rapids*
Helene Dykeman		*Evansville, Ind.*
Edith Adelaide St. John Eaton	59	*Ann Arbor*

Oscar Alfred Eberbach	113	*Ann Arbor*
Boyde Feddell Edgar	S	*Caro*
Leila Ruth Edgar	60	*Brighton*
James Bartlett Edmonson	90	*Kalamazoo*
Julia Caroline Edwards		*Adrian*
Mary Sophia Edwards	92	*Adrian*
Benjamin Rudolph Eggeman		*Detroit*
Mina Arberdeen Eggleston	30	*Lowell*
Harley Blane Eikenberry		*Greenville, O.*
Clarence Ernest Eldridge	15	*Three Rivers*
Myrtle Imogen Elliott	76	*Ann Arbor*
George Newton Ellis	30	*Ionia*
Harry Delmar Ellis		*Dundee, N. Y.*
Nellie Ellis	10	*Bridgeport*
Fred Chester Elmer		*Cleveland, O.*
Sandford Dana Ely		*Rutherford, N. J.*
William John Embs		*Escanaba*
Walter Eugene Emery	67	*Pontiac*
Annie Helen Enmark	30	*Lake Forest, Ill.*
Clara Belle Enos	30	*Pen Yan, N. Y.*
Ethel Snow Erb	93	*Brocton, N. Y.*
Fred Louis Erickson	58	*Escanaba*
Frances Mary Eschenburg	68	*Santa Barbara, Cal.*
Carl Van Stone Essery	29	*Manchester*
Lewis Alden Estes	30	*Ann Arbor*
Frederick Joseph Evans	S	*Ann Arbor*
Oscar Montgomery Evans	S	*Ann Arbor*
Thomas Charles Evans	S	*Ebensburg, Pa.*
Charles Arthur Everest	30	*Ann Arbor*
Mildred Anne Everest	30	*Ann Arbor*
William Henry Everest	30	*Ann Arbor*
George Eves	23	*Millville, Pa.*
Gertrude Norman Ewing		*Falls Church, Va.*
Porter Jay Ewing	30	*Lima, O.*
†Henry Hallowell Farquhar, *e*		*Rockville, Md.*
Edward James Farrell		*Indianapolis, Ind.*
Mary Runnels Fayram		*Port Huron*
Dora Christian Fearon		*Ironton, O.*
Josephine Dickerson Fearon	77	*Ironton, O.*
Lewis Henry Fee	56	*Oshtemo*
Blanche Dean Fenton	41	*Escanaba*
Marjorie Fenton		*Washington, D. C.*
Walter W. Ferris	S	*Hicksville, O.*
John Elgin Fetzer, *l*	92	*Denver, Col.*
Ralph Arthur Fink	17	*South Bend, Ind.*
Solomon Fishbaine		*Detroit*
John Crocker Fisher, Jr.	31	*Elmira, N. Y.*
Constance Fitch	30	*Pontiac*

Raymond Lawton Fitzgerald	3	*Honeoye Falls, N. Y.*
Fred Fleagle	61	*Saint Johns*
Fern Inez Fleming	46	*Detroit*
William Azro Fletcher	30	*Ypsilanti*
Hortense Flexner	61	*Louisville, Ky.*
Susan America Florer	44	*Cadillac*
John Hall Folger	S	*Grand Rapids*
Joseph Samuel Folz	12	*Kalamazoo*
Kenneth Stuart Forbes	22	*Detroit*
Sarah Powers Ford	S	*Brattleboro, Vt.*
Clarence Edwin Forhan		*Trinidad, Col.*
Luther Benning Foster		*Ludington*
Howard Vanton Foulke	58	*Indianapolis, Ind.*
Quincy Marion Fowler	S	*Ann Arbor*
George Henry Fox, *m*	75	*Manistique*
Gilbert Julius Fox		*Cincinnati, O.*
Emanuel George Frank	30	*Detroit*
Harry Clayton Fraser		*Crystal Falls*
Walter Edward Frazee	56	*Rushville, Ind.*
Harold Chester Fredrickson	27	*South Bend, Ind.*
Charles Hill Freeborn	S	*Wadsworth, O.*
Arthur Joseph Freese	18	*Galion, O.*
Edward Blakeslee French	49	*Three Rivers*
Marcus Leopold Freud		*Detroit*
Walter Dalton Freyburger	30	*Decatur, Ill.*
David Friday	22	*Benton Harbor*
Frank Maurice Frisby		*Bethany, Mo.*
Giles Morton Fritch	8	*Saint Louis, Mo.*
Dorothy Henrietta Frost	33	*Bay City*
Lillian Louise Frost	94	*Bay City*
Marion Nellie Frost	4	*Grand Rapids*
Jean Fuller	61	*Ionia*
Anna Fullerton	23	*Detroit*
William Borland Fullerton		*Kansas City, Mo.*
Helen C. Gable		*Germantown, O.*
Mabel Clare Galbraith	30	*Bluffton, Ind.*
Esson McDowell Gale	79	*Bay City*
Helen Bernice Gallagher	62	*Manistee*
Blanche Genevieve Gallup	S	*Ann Arbor*
Edward Everett Gallup	91	*Ann Arbor*
Osborne Garber		*North Manchester, Ind.*
Harry Blauvelt Garrett		*Decatur*
Emma Mary Gartner		*Wyandotte*
Truman Herschel Gass, *l*	91	*Washington*
Charles Gatchell	95	*Benton Harbor*
James Ryan Gaul	S	*Calumet*
Thomas Ambrose Gaynor		*Montague*
Pleasant May Geiken	58	*Charlevoix*

James Boyd Gemberling	93	*Three Rivers*
Grace Gibson	30	*Malta, O.*
Katherine Gibson	26	*Malta, O.*
Allan Mowry Giddings	70	*Augusta*
Frances Gigandet	S	*Grand Marais*
Joseph Anderson Gilbert	S	*Chicago, Ill.*
Luther Orren Gilbert	95	*Detroit*
Clara Louise Gilmore	26	*Greenville*
Walter Elias Glas	28	*Cincinnati, O.*
Rudolf Oscar Glatzel		*Ann Arbor*
Theodore Munson Gleason		*Toledo, O.*
Joshua Bliss Glenn	62	*Hillsboro, O.*
Jacob Christian Gleysteen	61	*Alton, Ia.*
Ernest Eugene Godfrey		*Ann Arbor*
Elenore Harriet Goeschel	13	*Saginaw*
Persis Margaret Goeschel	24	*Saginaw*
Joseph Fletcher Goldsberry		*Chillicothe, O.*
Lucy Lynn Goodlander	57	*Wabash, Ind.*
Earle Albert Goodenow	4	*Kalamazoo*
Blanche Alice Goodnow		*Howell*
Cyrus John Goodrich	26	*Tekonsha*
Edith Cornelia Goodrich	38	*Detroit*
George Edward Goodyear	55	*Hastings*
John Alexander Gordon		*Battle Creek*
Nathan Beryl Gordon		*Findlay, O.*
John Everett Goss		*Oklahoma City, Okla.*
Jean Hunter Goudie	8	*Ironwood*
Curtis A. Goudy		*Denver, Col.*
Benjamin Bear Gould	100	*Forestville, N. Y.*
Lena Mary Gould	30	*Owosso*
William Crozier Gould	69	*Forestville, N. Y.*
Jennie Alice Graber	54	*Ann Arbor*
Cecil Mary Grace	62	*Marshall*
Harry Searls Gradle, *m*	99	*Chicago, Ill.*
Herbert Graff	61	*Ionia*
Raymond Granger		*Dansville*
Paul Emerson Grant		*Manistee*
Henri Lucian Gratton, *m*	63	*Detroit*
Ottilie Kunigunde Grauer	49	*Saginaw, West Side*
Chancey Arthur Graves	106	*Ann Arbor*
Hildegarde Mary Grawn	104	*Mount Pleasant*
Elmore Beach Gray	8	*Pontiac*
James Boone Gray	30	*Dayton, O.*
Nellie May Gray	60	*Strongs*
Ruth Curtis Greathouse	16	*Fort Myer, Va.*
Fanny May Green	94	*Marquette*
Florence Alice Green	88	*Batavia, N. Y.*
John Edson Green	61	*Hammond, N. Y.*

Lorena Vivian Greene	88	*Detroit*
Katharine Margaret Griffith	92	*Ashton, Ill.*
Nathan Cesna Grimes	102	*Ann Arbor*
Ethel Groat	62	*Ann Arbor*
Arthur Thomas Grossman	29	*Ann Arbor*
Grace Lucile Guild	70	*Wheaton, Ill.*
Virgil Bray Guthrie	30	*Ann Arbor*
William Frederick Haas		*Braddock, Pa.*
Ray William Hadden	22	*Holland*
Huldah Augusta Haenig	97	*Ludington*
George Lydia Hager	56	*Marquette*
Maude Thelma Hagle	89	*Ann Arbor*
Albert J. Hall	67	*Pontiac*
Clarence Frank Hall		*Akron, N. Y.*
Helen Hall	51	*Manistee*
Rose Kent Hall	60	*Buffalo, N. Y.*
Lois Margaret Hallenbeck	91	*Canandaigua, N. Y.*
Elsa Linda Haller	27	*Ann Arbor*
Hubert George Haller		*Ann Arbor*
Edward Orville Ham	62	*Chicago, Ill.*
Roy William Hamilton	98	*Detroit*
Stuart McCune Hamilton		*Sandusky, O.*
Edward Percy Hammond	46	*Detroit*
Harold Webb Hanlon, *l*	94	*Williamston*
Charles Ralph Hannan, Jr.	59	*Boston, Mass.*
Lena Bergetta Hansen	100	*Ludington*
Jessie Mae Hare		*Bellevue*
Florence Lee Harger		*Holly*
Don Vilret Hargrave	10	*Palo*
Ivan Frederick Harlow	30	*Ann Arbor*
Esther Harmon	95	*Toledo, O.*
Lena Maude Harmon	30	*Sinclairville, N. Y.*
Hampartsoom Hagop Haroutuna	S	*Van, Turkey*
Ewing Harper		*Pittsburg, Pa.*
Mabel Anne Harper	61	*Detroit*
Bessie Winegar Harrington	43	*Bloomington, Ill.*
Lee Winegar Harrington	26	*Ann Arbor*
Ben Harris	33	*Salt Lake City, Utah*
Frances Mary Harris		*Coldwater*
Mary Luella Harris		*Orchard Lake*
S. Franc Harris	56	*Williamston*
Ruth Ellen Harrison	64	*Detroit*
Edward Houston Harsha	30	*Chicago, Ill.*
†John William Harsha, *p*		*Charlevoix*
Carl Floyd Hartmann, *m*	59	*Wauseon, O.*
Alice Garnock Harvey	58	*Detroit*
Athelstan George Harvey	59	*Ann Arbor*
Mary Jane Haskin	S	*Toledo, O.*

Stephen Conger Hathaway	101	*Jackson*
Eva Lenore Hathhorn	38	*Livingston, Mont.*
Anna Louise Haug		*Houghton*
Mayme Gertrude Hauser		*Ann Arbor*
Howard Charles Hawkins	4	*Richmond*
Mary Amorette Hawley	90	*Ann Arbor*
Ralph Ernest Hawley	S	*Grand Rapids*
George Spalding Hayden	8	*Ishpeming*
Jay G. Hayden	29	*Cassopolis*
Lon West Haynes, *m*	93	*Hillsboro, O.*
Edward William Headsten	50	*Escanaba*
Ethel Margaret Heath	72	*Ann Arbor*
Homer Leslie Heath	57	*Ann Arbor*
Roscoe Larcom Heaton		*Fort Wayne, Ind.*
Grace Heitsch	2	*Pontiac*
Frank Pritchard Helsell, *l*	94	*Odebolt, Ia.*
Nina Alice Henderson		*Detroit*
Zoraida Lowell Henderson	38	*Jackson*
Herbert Hene		*La Fayette, Ind.*
Edward Henkel	30	*Detroit*
Guy De Vere Henry	27	*Alpena*
William Blodgett Henry	67	*Mecosta*
Jessie R. Herman	87	*Caro*
Paul Judson Hewitt, *l*	92	*Grand Rapids*
Helen B. Hicks	28	*Alpena*
Charles Edward Hill	94	*Ellsworth, Ia.*
Harry Hill	S	*Edinburg, Ill.*
Hazel Gustene Hill	63	*Decatur*
Eva Louise Hills	65	*Lombard, Ill.*
Natalie Mathilde Hine		*Bay City*
Gale E. Hines	39	*Charlevoix*
Alma May Elizabeth Hinkle	81	*Philadelphia, Pa.*
Francis Hall Hinrichs, *m*	60	*Davenport, Ia.*
Albert Euclid Hinsdale, *h*	83	*Ann Arbor*
Grace Florence Hippel	30	*Coalton, O.*
Robert Ellis Hitch	50	*El Paso, Ill.*
Hazel Mary Hoag	87	*Ionia*
William Gage Hoag, *l*	93	*Indianapolis, Ind.*
George Henry Hobart, Jr.	30	*Grand Rapids*
Lotta Bernice Hobart		*Friendship, N. Y.*
Lillian Mae Hodge	15	*Pontiac*
John Thomson Hodgen, *m*	79	*Saint Louis, Mo.*
Lily Louise Hogan		*Ann Arbor*
Lillian May Holbrook		*Ann Arbor*
Branson Harley Holmes	18	*Lima, O.*
Howard Samuel Holmes	62	*Chelsea*
Mary Grace Holmes	87	*Kenton, O.*
Elizabeth Langston Holton	47	*Indianapolis, Ind.*

Vida Lucetta Holtzman	109	*Vernon*
Max Ray Hoover	77	*Shepherd*
Agnes Hopkins	94	*Bear Lake*
Genevieve Belle Hopkins		*Dowagiac*
Myrle Hopkins	58	*Dowagiac*
Belle Mix Hormell	72	*Kansas City, Mo.*
Charles William Houghton	S	*Detroit*
Harry Garfield Houghton	94	*Oak Grove*
Eugene Bernard Houseman	86	*Grand Rapids*
Helen Hubbard Houseman	44	*Muskegon*
Wallace Pemberton Hoverder	4	*Atco, N. J.*
Roy R. Howard, B.S., *Oregon Agricultural College*	60	*Prineville, Ore.*
Emma Jane Howarth	S	*Marshalltown, Ia.*
Ruth Walton Howe	92	*Worcester, Mass.*
William Cooper Howells		*Jefferson, O.*
Wilhelmina Hoyseth	95	*Ishpeming*
Donald Chester Hoyt		*Chillicothe, O.*
Mary Lucile Hoyt	56	*Ypsilanti*
May Clara Hudson	100	*Augusta*
Olga Rudolphia Huelster	S	*Detroit*
Annie Phillips Hughes	S	*West Philadelphia, Pa.*
Edith Grace Hughitt	30	*Escanaba*
Leroy Wetmore Hull	12	*Orchard Lake*
Harold Alonzo Hume	85	*Owosso*
Harry Christianar Hunt	92	*Munhall, Pa.*
Warren Thomas Hunt		*Piqua, O.*
Hazel Loretta Hunter		*Detroit*
Lucretia Pamelia Hunter	30	*Ann Arbor*
Harry Gilbert Huntington	30	*Howell*
Maud Ethel Huntsberger	30	*Toledo, O.*
Florence Emma Hurd		*Hampshire, Ill.*
Minerva Agnes Hutchinson, A.B., *Rockford College*	90	*Capron, Ill.*
Thomas Hutchinson	79	*Menominee*
Chester Frederick Idema		*Grand Rapids*
Otto Reinhold Ihling		*Kalamazoo*
Alonzo Bee Imus	92	*Ann Arbor*
Clara Grover Inglis		*Boulder, Col.*
Kiyosue Inui	91	*Kobe, Japan*
Harry Wayne Isenberg	20	*Toledo, O.*
Keikichi Ishida	52	*Kanazawa, Japan*
Robert Granville Jack		*Buffalo, Ill.*
Bess Hazelton Jackson	41	*Springville, N. Y.*
George Leroy Jackson	102	*Springville, N. Y.*
Glenn Watson Jackson	20	*Gladstone*
Helen Louise Jacobi	30	*Mount Clemens*
Arnold Leon Jacoby, *m*	64	*Downer's Grove, Il*

Gladys Opal James	S	*Ann Arbor*
Muriel Vida Hasbrauch James		*Ann Arbor*
Lionel Leroy James	S	*Coloma*
Myra Anna Jaquet	68	*Ann Arbor*
Frances Alexis Jarvis		*Port Huron*
Grace Irene Jeffries		*Detroit*
William Jehle	121	*Woodmere*
Nannie Jenkin	97	*Lake Linden*
Alpheus Felch Jennings	60	*Detroit*
Mary Louise Jensen	56	*Rolfe, Ia.*
Myron Delos Jerome	86	*Evart*
Frederick Victor Johnston		*Chrisman, Ill.*
Robert Gray Johnston		*Kendallville, Ind.*
Evered Vivian Jolliffe	58	*Plymouth*
Ella May Jones	86	*Ridgeway*
Ezra Harold Jones	15	*Detroit*
Floyd Harding Jones		*Elmira, N. Y.*
Isla Helen Jones	81	*Grand Rapids*
Nydia Russella Jones	30	*Vulcan*
Paul Van Brunt Jones	98	*Ann Arbor*
Samuel Tilden Jordan	84	*Paw Paw*
Irma Antoinette Judd	60	*Toledo, O.*
Max Kahn	30	*Denver, Col.*
Millard Prunier Kaiser		*Saint Louis, Mo.*
Francis George Kane	29	*Detroit*
Emma Rosetta Kassebaum	70	*Rossville, Kan.*
Walter Clarence Kathan	8	*Bradford, Pa.*
Frances Gertrude Kearney	22	*Dexter*
Fred Barker Keeler	44	*Detroit*
Amy Elizabeth Keene	6	*Indianapolis, Ind.*
Francis Bishop Keeney, *l*	94	*Ann Arbor*
Lucy Margaret Keeshan		*Junction City, Kan.*
Roberta Jane Kehoe		*Traverse City*
William Lloyd Kelley		*Shelbyville, Ill.*
Harold Alfred Kelly		*Clinton, Ia.*
Harry Lorenzo Kelly	30	*Cleveland, O.*
Judd Kelly	29	*Adrian*
Spafford Earl Kelsey	30	*Caro*
William Kline Kelsey	71	*Toledo, O.*
William Herbert Kempfer	84	*Beaver Springs, Pa.*
Annie Margaret Kenaga	30	*Kankakee, Ill.*
Helen Adela Kendall	17	*Chicago, Ill.*
John Titus Kenny		*Spokane, Wash.*
Joseph Stanley Kent, *l*	95	*Saginaw*
Virgil Morrison Kime	95	*Atlanta, Ga.*
Clyde L. King	S	*Emporia, Kan.*
Ralph Benjamin King		*Detroit*
Frances Adelaide Kingsley	21	*Flint*

Lena J. Kinney	86	*Schoolcraft*
Walter Joseph Kinney	S	*Elmira, N. Y.*
Melinda Kinyon		*Ann Arbor*
Edward George Kirby	6	*Toledo, O.*
William Gifford Kirby, Jr.	81	*Ann Arbor*
Francis Washington Kirkham	S	*Lehi, Utah*
Monta Volney Kistler	18	*Topeka, Kan.*
Frieda Kleinstück	10	*Kalamazoo*
Irene Margarethe Kleinstück	89	*Kalamazoo*
Katherine Louise Klingel	89	*South Bend, Ind.*
Elsie Laura Knapp	92	*Ida*
Rudolph Ernst Knapp, B.S. (Phar.)		*Detroit*
Dorothea Kneeland		*Saint Louis*
Jean Bowden Knight		*Detroit*
Martin Edwin Knoll		*Decatur*
Rupert Walter Henry Koch	14	*Ann Arbor*
William Frederick Koch		*Detroit*
Wildred Winter Korns		*Tracy, Minn.*
Louis Clement Kraft		*Wheeling, W. Va.*
Martin Weston Kramer		*Elk Rapids*
Edward Campbell Krauss	103	*Ottawa, O.*
Charles Brooks Kress	64	*Jackson*
Margaret Rose Kress		*Ann Arbor*
Julian Henry Krolik, *l*	113	*Detroit*
Leo Crane Kugel	21	*Sandusky, O.*
Julius Frank Kümmel	90	*Trenton, N. J.*
Carl Christopher Kusterer	99	*Grand Rapids*
Lucas Petron Kyriakides, A.B., *Anatolia College, Turkey*	60	*Géĩvê Hau, Broussa, Turkey*
Albert George Kyselka	26	*Traverse City*
Robert McKean Laas		*Ottumwa, Ia.*
Edwin De Forest Lacy	62	*Warren, Pa.*
May A. LaFever	88	*Battle Creek*
Jessie Gould Laing	92	*Ann Arbor*
George Emery Lalley	30	*Lowell*
James William Lampman		*Hastings*
Charlotte Lane	103	*Ann Arbor*
Robert McNeil Lane	85	*Toledo, O.*
Fern L. Langmade	60	*Delevan, N. Y.*
George Michie Laning	42	*Osaka, Japan*
Osborn Hendrick Larimer		*Topeka, Kan.*
Homer Clark Lathrop	24	*Swanton, O.*
Pauline Charlotte Lau	S	*Ann Arbor*
Edward Henry Lauer	88	*Peru, Ill.*
Gertrude Irene Lawlor	71	*Joliet, Ill.*
Vera Lay	90	*Kalamazoo*
Harold Plaut Lederman	34	*Kansas City, Mo.*

Anna Belle Lee		*Great Falls, Mont.*
George Hammond Lee		*Detroit*
Robert Burt Leete	63	*Detroit*
Harley Kenneth Legg, *l*	102	*Ann Arbor*
George Michael Lehman	30	*Ann Arbor*
Frederick Leighton, *m*	60	*Methol, N. Y.*
Alina Leinonen	30	*Calumet*
Rosco Genung Leland, *m*	63	*Mendon*
Edith Blanche Leonard		*Detroit*
Mary Katherine Leonard	61	*Urbana, O.*
Harriet Edythe Levin	30	*Michigamme*
Gladys Sarah Lewis		*Ithaca*
Katherine Vienna Lewis	95	*Climax*
Philip Knight Lewis	4	*Wichita, Kan.*
Lulu Agatha Liesemer	81	*Ann Arbor*
Carl Liesendahl, Jr.	30	*Chicago, Ill.*
Blanche Lignian	94	*Ann Arbor*
Clarence John Lignian	62	*Ann Arbor*
Charles Herbert Lillie	S	*Grand Rapids*
Elsie Sarah Linton	18	*Saginaw*
Doris May Littman	8	*Cleveland, O.*
Leah May Livingston		*River Rouge*
Addie Ruth Lockwood		*Hillsdale*
John Louis Loell		*Escanaba*
Gebhard Joseph Long, *m*	90	*Tower City, Pa.*
Irvin Westhafer Long, *l*	93	*Monroe*
William Carson Long	30	*Chicago, Ill.*
Daisy Editha Lonyo	56	*Detroit*
Alvin Lorie	30	*Kansas City, Mo.*
Arthur Herbert Loucks	53	*Grand Rapids*
Jay Mack Love, Jr.	28	*Arkansas City, Kan*
Parish Storrs Lovejoy	44	*Princeton, Ill.*
L. Ruth Lowe	26	*Jackson*
Rachel Lowell	12	*Worcester, Mass.*
Martin Lowenberg	60	*Cincinnati, O.*
John Albert Lubbers	30	*Clinton, Ia.*
Edward Bulnes Lucius	57	*Chicago, Ill.*
L. Coleman Ludlum	32	*Ann Arbor*
Melinda Amelia Luick	S	*Ann Arbor*
†Roy Vincent Lull, *e*		*Ithaca, N. Y.*
Mary Grace Lung	78	*Seattle, Wash.*
Doris Colborn Lutes	38	*Ann Arbor*
Edith Corbin Lutes	60	*Toledo, O.*
Carrie Bess Lycan	49	*Paris, Ill.*
Margaret Adrienne Lydecker		*Ann Arbor*
Jennie Marguerite Lyng		*Highwood, Mont.*
Albert Eddy Lyon	24	*Detroit*
Florence Ruth Lyon	56	*Calumet*

Roy Kenneth McAlpine	88	*Brooklyn*
Barbara Hamilton McAlvay	22	*Lansing*
Belle Alice McCall		*River Rouge*
James Wilbur McCandless	30	*Dayton, O.*
John Harvey McCandless	92	*Dayton, O.*
Gene McQuaid McCarthy		*Townsend, Mont.*
Louis Charles McClure	57	*Tecumseh*
Louise Carey McConnel	50	*Jackson*
Peter F. McCormick	90	*Gladwin*
Stella May McCracken	58	*Arlington, N. J.*
Effie Gillies Macdonald	26	*Hubbell*
Leslie Allan MacDonald	S	*Houston, Tex.*
Russell Milton McFarland		*Adrian*
Maude Elizabeth McFie	S	*Sante Fé, New Mex.*
Marianne Wetmore McGraw	4	*Ann Arbor*
Ford Herbert McGregor	95	*Mount Clemens*
Michael Brennan McHugh	8	*Saginaw*
Anna Elizabeth MacKay		*Detroit*
May Nelle McKinney	62	*Holly*
Elsie McLain	96	*Saint Louis, Mo.*
John Jay McLaren		*Plymouth*
Violet Emma McLaren	51	*Ann Arbor*
Margaret McLauchlan		*Chicago, Ill.*
Belle Maclean	92	*Chicago, Ill.*
Ethel Jane Maclean	87	*Hancock*
Lucile McLouth		*De Witt*
Harley Jay McMacken		*Mount Pleasant*
Joseph Glenwood McMacken	93	*Mount Pleasant*
Frank Lemuel McManness		*Findlay, O.*
Lyle D. McMillan		*Berlamont*
Jessie Jones McNall	30	*West Henrietta, N. Y.*
Harold Anson McNitt		*Ravenna*
William McPherson	76	*Howell*
Isabella MacRae	89	*Laurium*
Hector Tripp Madison	105	*Albion*
Charles J. Magarity	45	*Paxton, Ill.*
Saul Magnus	61	*Cincinnati, O.*
Paul Parker Magoffin	S	*Washington, D. C.*
Anna Genevieve Mahoney	43	*Decatur*
Birdie Major	56	*Walnut, Ill.*
George Gordon Malcolm	93	*Pontiac*
Mary Kathryn Malcomson	82	*Detroit*
Alice Malone	S	*Detroit*
Ray Manchester		*Battle Creek*
Jessie Ellen Mann	88	*Concord*
Louise Anna Mann	30	*Ann Arbor*
Ruth Mable Manville	34	*West Chicago, Ill.*
Alma Marine, B.S., *Valparaiso University*	S	*Valparaiso, Ind.*

Amos Markey		*Eaton, O.*
Cyril Eugene Marks	106	*Racine, Wis.*
Carl Eugene Marquardt	8	*Saint Joseph*
Erston Leland Marshall	30	*Gaylord*
Ida May Marshall	S	*Chicago, Ill.*
Laurence Marquis De Lafayette Marshall	87	*West Bay City*
Margaret Martain	S	*Williamston*
Eugene Perry Martin, *l*	95	*Blue Island, Ill.*
Helen Mary Martin	30	*Ann Arbor*
Oswald Perry Martin		*Middlebury, Ind.*
Persis Lydia Martin	92	*Ann Arbor*
Clara Louise Martiny	53	*Clinton*
Wilma Marx		*Detroit*
Anna Eugenia Mason	30	*Elgin, Ill.*
Leah Scott Mason		*Battle Creek*
Donald Maxwell Matthews	30	*Orange, N. J.*
Harry Eugene Matthews	73	*Jackson*
Joseph Lee Maybury	S	*Sharon, Pa.*
Edna Josephine Mayworm	33	*Detroit*
Franklin Bush Mead	105	*Cincinnati, O.*
Edith Viola Meads	30	*Calumet*
John Collier Mechem	35	*Chicago, Ill.*
Albert Edward Meder		*West Bay City*
Ethel Leonora Melin	16	*Moline, Ill.*
Fred Arthur Mellencamp	60	*Grass Lake*
Elizabeth Wenis Merkle	30	*Chillicothe, O.*
Louise Marie Merkle	27	*Chillicothe, O.*
Walle Williard Merritt	36	*Portland, Ore.*
Viola Maude Merwin		*Dowagiac*
John Milton Metheany	S	*Grand Rapids*
Emma Herey Meyer		*Denver, Col.*
Herma Louise Meyer	30	*Lincoln, Ill.*
Harry Elmer Mick	20	*Goshen, Ind.*
Elgin Mifflin, Jr.		*Lansing*
Thomas LeRoy Milburn, *l*	91	*Niles*
Earl Blair Mill		*Kansas City, Mo.*
Charles Earl Miller		*Kokomo, Ind.*
Charles William Miller, *m*	88	*Peoria, Ill.*
Elisebeth Gertrude Miller	30	*Sturgis*
Leon W. Miller		*Charlevoix*
Louis Charles Miller	90	*Cleveland, O.*
Margaret Rodgers Miller	34	*Muskegon*
Ruth Estelle Miller	32	*Ann Arbor*
Rutherford Bradley Miller	56	*Belleville*
Ella Blanche Mills	48	*Ann Arbor*
Leonard Rollman Minster	16	*Cincinnati, O.*
Bernice Pearl Mitchell	57	*Southold, N. Y.*

Frances Thornton Mitchell		*Marshall*
Clara Louise Moffett	88	*Flint*
Robert Emmett Monroe	30	*Webberville*
Louis Bolduc Montford	S	*Benton Harbor*
Henry Arthur Montgomery	22	*Flint*
Earl Charles Moody	60	*Nora Springs, Ia.*
Carl Radcliffe Moore	61	*Port Huron*
Ruth Moore	30	*Troy, O.*
Fred Charles Morgan	104	*Saginaw, West Side*
Virgil Kinsey Morgan		*Kansas City, Mo.*
Fannie Leone Morris	86	*Grand Rapids*
Frank Clarke Morris		*Big Rapids*
Wilbert Willard Morris		*Cross Village*
William West Morris	30	*Chicago, Ill.*
Evangeline Mary Morrisey	88	*Grand Rapids*
†George Randolph Morrison, *e*		*Oak Park, Ill.*
Harry G. Morrison	S	*Crystal Falls*
Roscoe Conklin Morrison, *l*	90	*Elkhart, Ind.*
Ashley Walker Morse, *m*	96	*Ann Arbor*
Mae Eunice Morse	95	*Flint*
Mary Eugenia Morse		*Dowagiac*
Plinn Frederick Morse, *m*	62	*Detroit*
William Albine Morse	95	*Detroit*
Rena Howell Mosher	60	*Ann Arbor*
Rolland Vaughn Mothersill		*Holly*
Mabel Mountsier		*Charleroi, Pa.*
Paul Scott Mowrer		*Chicago, Ill.*
Annie Morton Mulheron	93	*Detroit*
Hugo Muller	S	*Manila, P. I.*
Blanche Dorothy Munyan	30	*Bay City*
Agnes Aloyse Murphy	27	*Saginaw*
Arthur John Murphy		*Howell, Ind.*
Jesse William Murphy	30	*Battle Creek*
Janie Hill Muse	90	*Bristol, Va.*
Kendall Kidder Mussey	56	*Elyria, O.*
Harry Marshall Myers		*Lapeer*
Albert Napoleon Nadeau	30	*Butte, Mont.*
Nellie Amelia Nagle		*Washington, D. C.*
Henry Walstane Guérard de Nancrède	23	*Ann Arbor*
John Joseph Neary	S	*Medina, N. Y.*
Clinton Jones Nelson		*Ann Arbor*
Mary Margaret Nelson	56	*Hudson*
Wencel Alexander Neumann	52	*Marlette*
John Gustave Neumarker	94	*Columbus, Neb.*
Edwin Lowe Neville	69	*Cleveland, O.*
Josephine Ara Nevins	70	*Otsego*
Edna Grace Newell	90	*Coral*
William Henry Newett		*Ishpeming*

Harry Loring Newnan	14	*Indianapolis, Ind.*
Anna Belle Newton, B.L., *Ohio Wesleyan University*	90	*Toledo, O.*
Mabel Alice Nichols	44	*Purcellville, Va.*
Winifred Nichols	79	*Flushing*
Frederick Ward Ninde, *m*	S	*Ann Arbor*
Louise Mira Nixon	61	*Veedersburg, Ind.*
Harold Adelbert Noble	109	*Ann Arbor*
Lydia Belle Norris		*Ann Arbor*
Nonna Alvira Norris	93	*Port Huron*
Daisy Olivia North	69	*Lake Linden*
Lucy Salome Norton	90	*Ann Arbor*
Adolph A. Nusbaum	8	*Cleveland, O.*
*Ralph Waldo Oakley, Jr.	30	*Detroit*
Emily Myers Oberlin, *m*	90	*Columbia, Pa.*
Jessie Obetz	S	*Detroit*
Richard Clare O'Brien	82	*Detroit*
Margaret Ogier		*San José, Cal.*
James Earl Ogle, Jr.	61	*Johnstown, Pa.*
William Fred Ohland	S	*Carrollton*
Thomas Lawrence O'Leary	30	*Montague*
Anne Loraine Oliver	95	*Allegan*
Anne Olney	14	*Fort Dodge, Ia.*
Daisy Caroline Olney	56	*Ann Arbor*
Stella Othelia Olson	57	*Calumet*
Alfred John Oppliger, *l*	90	*Rome, O.*
Louise Orth	94	*Detroit*
Arthur Henry Ortmeyer	107	*Evansville, Ind.*
George Augustus Osborn	38	*Sault Ste. Marie*
Grace Amanda Osborne	89	*Mancelona*
Morley Ernest Osborne	79	*Standish*
Charles McLallen Otis	S	*South Haven*
William August Otto	89	*Melvin, Ill.*
Robert Washington Goldsborough Owen	90	*Atlanta, Ga.*
Erle Blaine Owens	18	*Benton Harbor*
George Packard, Jr.	2	*Flushing*
Susie Georgina Palmer	60	*Ann Arbor*
Earle Milan Parker	97	*Dowagiac*
Frank James Parker	57	*Franklin, O.*
John Reed Parkhurst		*Reed City*
Franklin Crocker Parks, *l*	95	*Oil Springs, Ont.*
Maud Parr	86	*Maple Rapids*
Lloyd Joy Partridge		*East Bloomfield, N. Y.*
Lida Leah Pate	86	*Adrian*
Carl Joseph Pater	93	*Hamilton, O.*
Augustus Ramsey Patrick		*Kansas City, Mo.*
Harry Evans Patrick, *m*	64	*Detroit*

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*Deceased.

Victor Romaine Pattengill		*Lansing*
Harold Arzo Patterson		*Belding*
Frederick M. Paull		*Calumet*
Herbert Eugene Paulson		*Beacon*
Clyde S. Paxton	80	*Marshall*
Dorothea Ruth Payne	92	*Detroit*
William Whitney Payne		*Chicago, Ill.*
Albert D. Pearce	33	*Pentwater*
Anna Albertine Peck		*Lake Linden*
Florence Amarillas Peck	75	*South Bend, Ind.*
Edna Pauline Peet		*Battle Creek*
Katherine Pearlita Penberthy	92	*Menominee*
Leigh H. Pennington	47	*Ann Arbor*
Alfred Emery Perkins	30	*Otsego*
Marion Elizabeth Perkins	98	*Mexico City, Mex.*
Alice Heber Perry	96	*Chicago, Ill.*
May Madden Person		*Lansing*
James Webber Peter		*Saginaw*
Grant Huston Peters	60	*Monticello, Ill.*
Katheryn Belle Phelps		*Ann Arbor*
Sara Jane Phelps		*Ann Arbor*
Duncan Haldane Pierce	S	*Buffalo, N. Y.*
Matthew Griswold Pierce	52	*Peoria, Ill.*
Ralph Reynolds Pinckard, *m*	95	*Kalamazoo*
Margaret Frances Pinney	60	*Erie, Pa.*
Edward M. Plunkett	30	*Ann Arbor*
Mignon Blanchard Polglase	31	*Lapeer*
Earl Stevens Porter, *m*	61	*Galesburg, Ill.*
Claude Lucius Post		*Washington Court House, O.*
Katherine Cecilia Post	8	*Holland*
Harry Oral Potter	55	*Charlotte*
Mary Louise Pottinger	30	*Peru, Ill.*
Arthur Charles Pound	61	*Pontiac*
James William Powers	S	*Grand Rapids*
Marion Louise Powers	63	*Grand Rapids*
David Wight Prall	26	*Saginaw*
Elizabeth Norman Prall	99	*Saginaw*
Carrie Louise Pray	30	*Toledo, O.*
Edward John Prebis		*Chicago, Ill.*
Joel Henry Prescott	60	*Newark, N. Y.*
John Frederick Preston	77	*Higginsville, Mo.*
Philip Gaw Preston		*Higginsville, Mo.*
Shirley Priddis	88	*Rochester, N. Y.*
Carrie Amelia Proctor	69	*Antwerp, N. Y.*
Frank Thaddeus Przybylski		*Duryea, Pa.*
Edithbelle Purdie	58	*Wyandotte*
Alice Nellie Quick	104	*Golden, Col.*

Bert Edwin Quick	30	*Lowell*
Arthur Eberhardt Raab		*Flint*
George Ellsworth Raburn	62	*Howard, Kan.*
Cecil DuBois Rainey		*Mansfield, O.*
Rebecca Browning Rankin		*Ann Arbor*
Webster Hamilton Ransom		*Sandusky, O.*
Conrad Raps		*Clarence Center, N. Y.*
Edna Grace Rauch	61	*Kansas City, Mo.*
James Athol Rawlins	87	*Salt Lake City, Utah*
Ethel Susan Rawson		*Elyria, O.*
Florence Genevieve Reamer	93	*Ann Arbor*
Sarah Elizabeth Reath	37	*Vulcan*
Rose Justine Reding	18	*Hubbell*
Jane Sharp Reed	97	*Richmond, Ky.*
Jay Theodore Reed	33	*Detroit*
Lenna Elizabeth Reed		*Albion, N. Y.*
Daisy Cora Reeves	97	*Rockford, Ill.*
Leonard Corrigan Reid		*Cheboygan*
Mabel May Reid	93	*Bay City*
Louise Minnie Reimold	61	*Saginaw*
Anna Evelyn Remer	93	*Saginaw, West Side*
Florence Marie Rennie	62	*Niles*
May Abbie Renwick	77	*Muskegon*
Zennia Jeanne Reynders	94	*Ann Arbor*
Alice Elizabeth Reynick	92	*Saginaw, West Side*
Albert Hargrave Reynolds	30	*Potsdam, N. Y.*
Edwin Rand Reynolds		*N. Tonawanda, N. Y*
William Lewis Rhonehouse		*Maumee, O.*
Helene Rice	56	*Calumet*
Allan Livingston Richardson	30	*Detroit*
Maxwell Greene Richardson		*Spokane, Wash.*
Armin Rickel	8	*Detroit*
Walter Delmer Riggs	71	*Ann Arbor*
Clarence F. Rinkle		*Boonville, N. Y.*
Stella Marie Rinsey	22	*Ann Arbor*
Archer Frederic Ritchie	66	*Detroit*
Mary Deans Ritchie		*Valley City, N. Dak.*
Inez Melissa Rix	88	*Oscoda*
Ruth Rizer	62	*Washington, D. C.*
Bessie Louise Roark		*Ann Arbor*
†Charles Adolph Robertson, c	13	*Muscatine, Ia.*
Guy Carlton Robertson	S	*Detroit*
Charles Summers Robinson	60	*Chicago, Ill.*
Harry Hungate Robinson	64	*Walla Walla, Wash.*
William Joseph Robinson	S	*South Haven*
McKee Robison		*Ypsilanti*
Charles Merwyn Rodi	60	*Calumet*
Irma Rodi	30	*Calumet*

Elizabeth Rogers		*Ishpeming*
Warren Lincoln Rogers	S	*Birmingham*
Lillian Rohsenberger		*Evansville, Ind.*
Clyde Calvin Roller	27	*Ashtabula, O.*
Justin Aaron Rollman		*Cincinnati, O.*
Stella Davenport Rood	S	*Ann Arbor*
Eileen Root	56	*Kalamazoo*
Mary Evelyn Root		*Ann Arbor*
Dalton Keats Rose		*Decatur*
Goldie Rosen	S	*Muskegon*
Susan Grace Rosenstiel	80	*Freeport, Ill.*
Florence Rosenthal	S	*Toledo, O.*
Henrietta Elizabeth Rosenthal	38	*Ann Arbor*
George Byron Roth, *m*	94	*Mount Eaton, O.*
Edward Clark Rowley	22	*Lansing*
Florence Ruby	30	*Union City, Ind.*
Marie Antoinette Ruhlman	30	*Detroit*
Emma Rund	63	*Bessemer*
George Gilbert Rupley		*Duluth, Minn.*
Margaret Magdalin Ruppe	57	*Hancock*
Frances Russell	56	*Marquette*
Lea Daisy Russell	24	*Jackson*
Ruth Russell		*Ann Arbor*
Charles Hickey Ruttle	30	*West Bay City*
Agnes Elizabeth Ryan	S	*Ann Arbor*
Charles Diller Ryan		*Springfield, Ill.*
Eleanor Martha Ryan	S	*Lum*
Nellie Catherine Ryan	26	*Detroit*
Dean Earnest Ryman		*Six Lakes*
Homer Samuel Sackett	92	*Avon, N. Y.*
Eugenia Elizabeth Sage	33	*Lewiston, N. Y.*
Eliza Edith Salliotte	11	*Ecorse*
John Thomas Sample, *m*	100	*Saginaw*
Leo Sandler	32	*Grand Rapids*
Abram Sapiro		*Detroit*
Robert Ray Sattler		*Cincinnati, O.*
Donna McCutcheon Savage		*Lansing*
Homer Stuart Sayres	56	*Detroit*
Fred Martin Schaeberle	56	*Ann Arbor*
Clara Catherine Schaible	23	*Ann Arbor*
Stephen Schaible	S	*Ann Arbor*
Ella Regina Schenk	S	*Ann Arbor*
Otto Hugo Adolf Schenk		*Brantford, Ont.*
Rosina Katherine Schenk	30	*Ann Arbor*
Cecil Sophia Schirmer	91	*Chicago, Ill.*
Harry C. Schlatter		*Fort Wayne, Ind.*
Richard Schottstaedt, *m*	71	*Gloversville, N. Y.*
Carl Frederick Schreiber	46	*Saginaw, West Side*

†Orlin Jacob Schrock, *e*	4	*Goshen, Ind.*
Henry Frank George Schulte	S	*Jefferson Barracks, Mo.*
Bertha Emeline Schurrer	S	*Blaine*
Shelby Brewer Schurtz	52	*Grand Rapids*
Reuben Schutz	80	*Chicago, Ill.*
Gertrude Flora Schweinfurth		*Marion, O.*
Alice Brooks Scott	97	*Duluth, Minn.*
Erma May Scott	59	*Carl*
Florence Leah Scott		*Hancock*
Margaret Elizabeth Scott		*Detroit*
Martin Rowley Scott		*Friendship, N. Y.*
Willard Barnhart Scott	30	*Grand Rapids*
Amy Gwendolen Scutt	33	*Flint*
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Harley LeRoy Senseman		*Tippecanoe City, O.*
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Nora Rebecca Sevison	59	*Constantine*
Rudolph Vogel Shakes		*Plymouth, Ind.*
Donald Bruce Sharpe		*West Branch*
Ruth Shartel	59	*Neosho, Mo.*
Nellie Elizabeth Shaver	62	*Lakeview*
Bertha Louise Shaw	S	*Adrian*
John Charlton Shaw	92	*Ovid*
Joseph Tweed Shaw	S	*Calgary, Alberta*
Marie Louise Deshler Shearer	S	*Ann Arbor*
George Handy Shelton	66	*Grand Rapids*
Florence Mabel Sheplar	S	*California, Pa.*
Albert Wolfe Sherman	33	*Port Huron*
Estella Viola Lenore Sherrill		*Carmen, Okla.*
Bertha Lovenia Shuey	27	*Toledo, O.*
Aaron Franklin Shull	36	*New Carlisle, O.*
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Robert William Sinclair	60	*Detroit*
Maurice Singer		*Cleveland, O.*
James Hubert Skiles	60	*Chicago, Ill.*
Alice Mariette Slater		*Pontiac*
Howard Avery Slater		*Spokane, Wash.*
Lura Margaret Slaughter		*Escanaba*
Mary Kathleen Sleator	8	*Ann Arbor*
Jean Paul Slusser		*Downers Grove, Ill.*
Harriet Mary Smalley	29	*Detroit*
Lloyd Roycroft Smallman		*Wauseon, O.*
Helen Marion Smart	16	*Saginaw*
James Shirley Smart	16	*Saginaw*
Sadie Mary Smart	62	*Hancock*

Edythe Viola Smeeth	62	*Ann Arbor*
Mears Cummings Smiley	2	*Battle Creek*
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Bertram Garner Smith	72	*Youngsville, Pa.*
Clyde Marsh Smith		*Lakeland*
Edna Bianca Smith	50	*Alva, Okla.*
Ferris Nicholas Smith, *m*	62	*Pontiac*
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Eleanor Smoot	38	*Highland Park, Ill.*
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Jesse Frank Snodgrass		*Kansas City, Mo.*
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Grace Sorenson	S	*Omaha, Neb.*
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Jesse Daniel Spiro	S	*Canton, O.*
George Heman Sprague	92	*North East, Pa.*
Henrietta Staadecker	30	*Toledo, O.*
Clarence Bedell Staley		*Buffalo, N. Y.*
Carlton Hendrickson Stalker		*Madison, Wis.*
Clara Inglis Stalker	84	*Saginaw*
Oliver Otis Stanchfield	59	*Ann Arbor*
Elsa Gardner Stanley	96	*Ann Arbor*
Emily Sumner Stark, *m*	91	*Ann Arbor*
Evelina Manuel Stark	S	*Ann Arbor*
Rhoda Marian Starr		*Royal Oak*
Nicholaas Wouter Stas		*Amsterdam, Netherlands*
Anna Breese Steele		*Helena, Mont.*
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Charles Stein	28	*Chicago, Ill.*
S. Sidney Stein	S	*Chicago, Ill.*
Leon Steinberg	30	*Traverse City*
William George Steiner	61	*Duluth, Minn.*
Harold Arthur Steketee		*Grand Rapids*
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David Francis Stevenson		*Rochester, Minn.*
Fred Gray Stevenson	30	*Muskegon*
Harry Clifford Stevenson, *l*	94	*Kalamazoo*

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Mary Stewart	92	*De Land, Fla.*
Louis Darling Stickney	85	*Ann Arbor*
Katharine Marion Stiles		*Menominee*
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Sadie Agnes Stiles	58	*Grand Rapids*
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Margaret Stockbridge	30	*Ann Arbor*
Florence Lucy Stockly	8	*Hancock*
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John Hinchman Stokes	50	*Washington, D. C.*
Ferris Dickerman Stone	42	*Hillsdale*
Julia Loretta Stott	13	*Detroit*
Harry Bryan Stover	96	*Valley Falls, N. Y.*
Genevieve Stowe		*Ann Arbor*
Julia Gertrude Straub		*Evansville, Ind.*
Beatrice Fannie Straus	16	*Louisville, Ky.*
Anna Muriel Streibert	59	*Ann Arbor*
Ethel Katherine Streibert	61	*Pottsdam, N. Y.*
Gladys Streibert	30	*Ann Arbor*
Rolland Arthur Stretch	85	*Ann Arbor*
Irene May Stringer	91	*Detroit*
Frederick Smith Strong, Jr.		*Orchard Lake*
Eva Guendolyn Stumpf	4	*Indiana, Pa.*
Mayme Clara Sullivan	99	*Hubbell*
Corwine Sutherland	62	*Detroit*
Olive May Sutherland	30	*Detroit*
Tracy Olleton Sweetland	82	*Saline*
Cora Belle Swift		*Duluth, Minn.*
Gail Hamilton Swift		*Duluth, Minn.*
John Kinney Swihart		*Lima, Ind.*
Xantha Bartlett Swingle		*Mount Gilead, O.*
Helen Elizabeth Swinton	45	*Saginaw*
Fanny Taylor Taber	3	*Little Rock, Ark.*
Leslie Post Tabor	S	*Charlotte, N. Y.*
Louise Mariette Tabor		*Brooklyn, N. Y.*
Henry Chester Taft	36	*Ann Arbor*
Mabel Hall Talcott	62	*Elmwood, Conn.*
Reuel James Tanquary		*Saint Louis, Mo.*
Orrett Tatlock		*Ann Arbor*
Alice Taylor		*Denver, Col.*
Edith Anna Taylor		*Ann Arbor*
Ethel Taylor	91	*Negaunee*
Helen Isabelle Taylor	90	*Denver, Col.*
Monte B. Taylor	30	*Coldwater*
Ward Lapey Taylor	92	*Port Huron*
Carrie Harter Templeton	128	*Akron, Ind.*

Ralph Byron Textor		*Cleveland, O.*
Edith Thomas		*Ironwood*
Leo Thomas	30	*Troy, O.*
Ardus Clair Thompson, *m*	90	*Franklin, Pa.*
Crystal Thompson		*Ypsilanti*
Edith Marian Thompson	94	*Evart*
Sarah Sophia Thompson	56	*Vulcan*
George Theodore Thorward	108	*South Bend, Ind.*
Lilla Louise Thurber	84	*Holland*
Etta May Thurlow	8	*Battle Creek*
Lona Catherine Tinkham		*Ann Arbor*
John Clark Tinsley		*Des Moines, Ia.*
Laurence Todd	S	*Kalamazoo*
Myrtle Foster Todd	S	*Monroe*
George Hamlin Tooker	S	*Pittsburg, Pa.*
Richard Hayman Tremper, *l*	91	*Portsmouth, O.*
Howard Hull Treudley		*Youngstown, O.*
Lawrence Knight True	6	*Chicago, Ill.*
Clara Louise Trueblood		*Ann Arbor*
Oscar Stuart Trumble	92	*Davison*
Mary Esselstyn Trumpour	20	*Bay City*
Charles Corrance Tschirgi		*Dubuque, Ia.*
Roy Pratt Tucker	44	*Grand Rapids*
George Dexter Tunison	18	*Fenton*
Mabel Tuomey	75	*Detroit*
Charles Earl Turner	22	*New Sharon, Ia.*
Margaret Turner	38	*Escanaba*
Muriel Twiggs		*Detroit*
Charles Twitchell	60	*Mansfield, O.*
Ethel Marion Tyrrell	22	*Lake Geneva, Wis.*
Marshall Mortimer Uhl, *l*	108	*Grand Rapids*
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Alberta Beatrice Uren	30	*Lake Linden*
Frank Dickinson Urie	18	*Toledo, O.*
Charles Alexander Vallance	72	*Fowlerville, N. Y.*
Francis Carl Vander Veen	S	*Grand Rapids*
Don Vander Werp		*Fremont*
Catherine Van Gorden	81	*Hamilton, O.*
Dayton Chamberlain Van Hyning	S	*Otsego*
Delia Van Kleeck	60	*Bay City*
Arietta Orlean Van Ness		*Burlingame, Kan.*
Newton Gard Van Ness	30	*Cassopolis*
Katherine Van Valkenburgh	26	*Hastings*
Louise Van Voorhis		*Evanston, Ill.*
Don William Van Winkle		*Howell*
Madge Caroline Van Winkle	101	*Howell*
Charles Emmit Varier, *m*	56	*South Bend, Ind.*
Nina Franc Varson	60	*Calumet*

Willard Robert Vaughan		*Covert*
Beverly Blair Vedder		*Rushville, Ill.*
Stanley Evans Vernor	35	*Detroit*
Lelia Volland	88	*Grand Rapids*
Marie Volmari	90	*Grand Rapids*
Bertha Belle Vondracek	62	*Cedar Rapids, Ia.*
Sigrid Anna von Zellen, Ph.C.	S	*L'Anse*
Helen Louise Vorce	30	*Ypsilanti*
Edith May Wadhams	66	*Ann Arbor*
Walter Hiram Wadleigh	63	*Oberlin, O.*
Robert Millikan Wadsworth	91	*Warren, O.*
Newton Macy Wagener	71	*Kansas City, Mo.*
Harry Leigh Wagner	48	*Harbor Beach*
Martha Lucia Wagner		*Monroe*
Joseph Benjamin Wahl		*Monroe*
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Glenn Carl Walker		*Markleville, Ind.*
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Zella Louise Walker	37	*Ironwood*
Arthur George Wall	S	*Hubbell*
Warren Leslie Wallace	61	*Morristown, N. Y.*
Louis William Walter	59	*Flint*
Katherine Fedora Walters	88	*Keokuk, Ia.*
Hiram John Wambold	25	*Ann Arbor*
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Howard Edwin Washburn	54	*Hope, N. Dak.*
Mabel Vera Waters	30	*Three Rivers*
James Keir Watkins		*Bay City*
Matilda Agnes Watkins	57	*Ann Arbor*
Clara Adele Watson	99	*Muskegon*
Isabella Rightmyer Watt	32	*Ann Arbor*
Fred William Watts		*Toledo, O.*
Anna Louise Waugh	92	*Duluth, Minn.*
Frank Weary		*Saint Joseph, Mo.*
Ulysses S. Weary	34	*Saint Joseph, Mo.*
Mary Amalia Weber	S	*Pana, Ill.*
Charles Roe Weeks		*Allegan*
Leo Carl Weiler	38	*Joplin, Mo.*
Mame Weir	92	*Calumet*
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Matilda Rayburn Wells	22	*Howell*
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Joseph Mortimer Welt	91	*Detroit*
Edwin Copley Wemple	S	*Chaumort, N. Y.*

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Enoch Thomas White, *l*	30	*Lapeer*
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Grace White		*McKeesport, Pa.*
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Alice Elizabeth Whitmore	90	*Perrysburg, O.*
Mary Estelle Whitney	69	*Ann Arbor*
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Louise Wicks	66	*Detroit*
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Lena Wilson	59	*Ann Arbor*
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Marie Alice Winsor	93	*Marshall*
Charles Edward Winstead	63	*Circleville, O.*
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Mildred Anna Withey		*Reed City*
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Ida Henrietta Wolff	S	*Chicago, Ill.*
Bessie Elizabeth Wood	56	*Fostoria, O.*
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James Frederick Woodruff	30	*Detroit*
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Mabel Clair Woodward	58	*Detroit*
Levina L. Woodworth	S	*Ann Arbor*
Philip George Worcester	30	*Thetford, Vt.*
William Ezra Worcester	12	*Thetford, Vt.*
Frank Ernest Work	33	*Hamill, Pa.*
Paul Bartholomew Work	30	*Elkhart, Ind.*

Anna Elizabeth Workman	92	*Grand Rapids*
Arthur Fleming Wright	28	*Waukegan, Ill.*
Winthrop Robins Wright		*Benton Harbor*
Victor John Wulff	52	*Chicago, Ill.*
Anna Wurster	105	*Ann Arbor*
John Francis Wurz		*Saint Joseph*
Hilgard Bicknell Young	86	*Chicago, Ill.*
Umberto Young	26	*Chicago, Ill.*
Anna Amelia Zahn	93	*Ann Arbor*
Karl Zoellner	71	*Portsmouth, O.*
John Cottingham Zollinger		*Piqua, O.*
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Alexander MacDonald Graver, B.S. [M.E], 1905	*Chicago, Ill.*
Ambrose Pond Merrill, B.S. [C.E.], 1904, *University of Utah*	*Richmond, Utah*
Horace Winchester Miller, Jr., B.S. [Mar.E], 1905	*Traverse City*
Ralzemond Drake Parker, B.S. [E.E.], 1905	*Detroit*
Sydney Rumney Russel, B.S. [M.E.], 1904	*Detroit*
Ralph Russell Tinkham, B.S. [C.E.], 1905	*Ann Arbor*
John Joseph Woolfenden, B.S. [E.E.], 1905	*Detroit*

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NAME	RESIDENCE
Sutton Van Pelt, B.S. [C.E.] 1898	*Sault Ste. Marie*

UNDERGRADUATES*

NAME	COURSE	CREDIT	RESIDENCE
Allison Abbott	C	31	*Geneva, Ill.*
Arthur Alger Abel	M	79	*Ypsilanti*
Louis William Abrons	C	58	*New York, N. Y.*
Ferdinand Wise Adams			*Saginaw*
John Hamilton Alden		12	*Saginaw*
Leon Barton Alexander	C	20	*Penn*
Harley Clifford Alger	M	74	*Hillsdale*
Clarence Schirmer Alig		14	*Indianapolis, Ind.*

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*The letters in the column headed Course indicate the line of work the student has chosen to pursue: C denoting civil engineering; M, mechanical engineering; E, electrical engineering; Ch, chemical engineering; Mar, marine engineering; S, miscellaneous studies not leading to any degree. As students are not asked to make choice of course until the beginning of their second year, the absence of a letter indicates that the student is in his first year. The figures in the column headed Credit indicate the number of hours of work taken by the student prior to the beginning of the current academic year, 1905-1906, and completed without conditions, or credited to him on advanced standing. By an hour of work is meant the equivalent of one exercise a week for one semester. A dagger (†) preceding a student's name signifies that he also pursued studies, for the whole or a part of the year, in some other department of the University, indicated by an italic letter following the name, to-wit: *a*, Department of Literature, Science, and the Arts; *m*, Department of Medicine and Surgery; *l*, Department of Law; *p*, School of Pharmacy; *h*, Homœopathic Medical College; *d*, College of Dental Surgery.

William Chisholm Allan	M	99	*Cleveland, O.*
Stanley Rindge Allen	M	100	*Grand Rapids*
William Thomas Alliger	Ch	24	*Dowagiac*
Courtenay Derby Allington	M	104	*Saginaw*
Leslie Eugene Allington		12	*Saginaw*
Maxwell Alpern	M	104	*Alpena*
Arthur Edwin Anderson	C	24	*Norway*
Niels Malander Anderson	S	106	*Fountain Green, Utah*
Roger Warner Angstman		4	*Detroit*
Emmett Frank Annis	C	20	*Denver, Col.*
Francis Wirt Appleton	E	31	*Longmont, Col.*
Charles DeVeny Vincent Armour		8	*Chicago, Ill.*
Winfield K. Ash	M	78	*Saint Johns*
Arthur George Atkinson			*Detroit*
Robert Henry Atkinson	E	70	*Norvell*
Chester Ely Atwood	C	45	*Olivet*
Louis Evans Ayres	C	32	*Detroit*
Edward Kennedy Bacon	M	64	*Denver, Col.*
Manohar Lal Badhwar	E	76	*Ferozepose City, Punjab, India*
Louis Rudolph Bailey	C	103	*Big Rapids*
Burton Adams Baker	E	112	*Lansing*
Owen Ritter Baker			*Detroit*
Ray Douglas Baker	C	71	*Fairfield*
Harold Clark Baldwin	C	12	*Grand Rapids*
Melvin Dana Baldwin	M	32	*Grand Rapids*
Walter Taylor Ball	Mar	32	*Detroit*
Charles Nelson Ballentine			*Port Huron*
Harry Pickands Banks	Ch	68	*Chicago, Ill.*
Harry Sherman Barfield		8	*Toledo, O.*
Newell Barnard	M	109	*Saginaw, West Side*
Robert Barnard			*Frederick, S. Dak.*
Bird Lee Barns	E	129	*Petoskey*
Roy Louis Barns	C	36	*Delray*
Randall Crittenden Barrett		12	*Wooster, O.*
Robert Anthony Pelham Barrier			*Detroit*
Edgar Llewellyn Barrows	Ch	24	*Detroit*
William Kenneth Barry	E	80	*Rochester, N. Y.*
Carleton Fred Bartlett	Ch	54	*Ann Arbor*
Harry Skinner Bartlett	E	71	*Detroit*
John Warren Barton	E	107	*Sturgis*
Joseph L. Barton	C	28	*Detroit*
Charles Wesley Bartrem	C	32	*Ann Arbor*
Kenower Weimer Bash	C	20	*Huntington, Ind.*
Howard Francis Baxter		8	*Grand Rapids*
William Campbell Baxter		14	*Yale*
Edwin Porter Beach	C	28	*Birmingham*

Walter Cooley Becker	Ch	81	*Chicago, Ill.*
Roy Beechler	M	91	*Ithaca*
Russell Stuart Begg		24	*Columbus Grove, O.*
Clarence Alfred Bell	M	28	*Rochester, N. Y.*
Robert Meredith Bellman	M	95	*Toledo, O.*
Edwin Irving Belote			*Elkhart, Ind.*
Marvin Jacob Beltz	M	32	*Akron, O.*
Carl Michael Bergin	C	35	*Lowell*
Gerrit Bergmans	E	43	*Sneek, Netherlands*
Hymen Manuel Berliant	C	47	*Chicago, Ill.*
Carroll Thayer Berry			*Portland, Me.*
Otto Carter Berry, A.B.	M	148	*Glendale, O.*
Walter Stewart Berry	S	27	*Glendale, O.*
Joshua Alvin Bertsch		4	*Cambridge City, Ind.*
Lawrence Howard Bertsch, A.B., *Indiana University*	M	77	*Cambridge City, Ind.*
Henry Edward Beyster	M	24	*Detroit*
George Crooks Billinger		8	*Allegheny, Pa.*
Glen Robbins Birchard			*West Bay City*
Charles Arthur Bird	E	36	*Saginaw*
Harry Eugene Bird	M	20	*Youngstown, O.*
†Russell Spencer Bishop, *a*			*Flint*
Carl Otto Bjork	C	50	*Chicago, Ill.*
Grover Cleveland Blalock			*Wingo, Ky.*
Samuel Edward Blanchard			*Toledo, O.*
George Joseph Blanton			*Toledo, O.*
Frank Walker Bliss	Ch	50	*Ann Arbor*
Homer Newell Bliss	S	58	*Buffalo, N. Y.*
Frank Blitz	M	31	*Detroit*
Fred Ethelbert Blood			*Honeoye Falls, N. Y.*
Howard Earl Blood		8	*Kalamazoo*
Gustave Robert Bode	C	24	*Iron Mountain*
Guy Willard Bolté			*Lakeside, Ill.*
Frank Leonard Bolton			*Portland, Me.*
Frederick Bernhard Bonde		24	*Valley City, N. Dak.*
Ellis Moss Bonney	Ch	105	*Chicago, Ill.*
Joseph Leroy Bonniger		8	*North East, Pa.*
Daniel Bontecou, Jr.		16	*Kansas City, Mo.*
Roy Edmund Boomer	C	74	*Ann Arbor*
Lloyd Logan Boone	C	36	*Montpelier, O.*
Luke Connable Bootes	C	52	*Jackson*
Robert Lee Boughton	Mar	66	*Battle Creek*
Stanley Ward Boughton	E	32	*Ann Arbor*
Joseph Samuel Bowman			*Las Vegas, New Mex.*
Lawrence Frederick Bowman	C	27	*Duluth, Minn.*
Winfield Sanford Bowman	E	38	*Kansas City, Kan.*
Estes Jackson Boyd		24	*Beaver Falls, Pa.*
Ford E. Boyd	M	36	*Fenton*

Kenneth Morrison Boyd	M	20	*Youngstown, O.*
Merlin Boyd	Ch	75	*Detroit*
Wilber Irving Boyles	M	71	*Charlotte*
Charles Brigham Boynton	C	118	*Muskegon*
Robert Hammond Boynton	C	16	*Batavia, N. Y.*
Samuel Craighead Brandon	M	111	*Detroit*
Benjamin Nathan Braun	M	106	*Ann Arbor*
Carl Wesley Braznell	M	28	*Stockdale, Pa.*
Howard Clay Brenizer	Ch	39	*Akron, O.*
Karl Edgar Brewer		24	*Rochester, N. Y.*
Elmer Stewart Brewster			*Leavenworth, Kan.*
Howard Gilbert Brinton	E	44	*Bradford, Pa.*
John Easton Broadbridge			*Marine City*
Arthur Sayer Brodhead		4	*Buffalo, N. Y.*
Henry Holbert Brodhead	M	59	*Buffalo, N. Y.*
Hugh Brodie	C	76	*Jacksonville, Fla.*
Stuart Benjamin Brodie		12	*North Evans, N. Y.*
Joe Richardson Brooks	C	41	*Menominee*
Norton Townshend Brotherton	M	45	*Detroit*
Grover Cleveland Brown		33	*Rogersville*
Oliver Gilbert Brown	C	66	*Honeoye, N. Y.*
Ralph Edgar Brown		8	*Manistique*
Ralph Leigh Brown			*Pueblo, Col.*
Morley Jesse Brown	Ch	60	*Sterling, Ill.*
Albert Ernest Brugger	Ch	57	*Columbus, Neb.*
William James Bryan	Ch	126	*Cincinnati, O.*
Frank Albert Buchanan, Jr.	E	79	*Newport, Ky.*
Guy Valgean Budlong	E	28	*Sturgis*
Louis Anton Buese	Ch	32	*Republic*
Ralph William Bulkeley		16	*Grand Rapids*
Edward Taylor Bullock			*New York, N. Y.*
William Carr Bulmer		4	*Youngstown, O.*
Albert Comstock Burch	Mar	70	*Grand Rapids*
William Allds Burnham		8	*Houghton*
Robert Archibald Burns	M	40	*Saint Paul, Minn.*
Frank Burton	Ch	68	*Detroit*
Russell Conklin Burton	C	36	*Detroit*
Eli Franklin Bush	E	107	*Hudson*
Frank Jarvis Bush	M	40	*Bay City*
Carl Darwin Bushnell	M	64	*Kalamazoo*
Henry William Buswell		8	*Grand Haven*
Albert Simpson Butler	E	87	*Honesdale, Pa.*
Louis Butler	E	95	*Kendall, Mont.*
Robert Horace Butters	M	28	*Ludington*
Eugene Anthony Buysse			*Detroit*
Royal Sumner Buzzell			*Flint*
Mark Stone Cady	C	16	*Sault Ste. Marie*
Samuel Cline Cady	M	18	*Sault Ste. Marie*

Arthur Blaine Caldwell	C	56	*York, N. Y.*
Herbert Blowers Calkins	E	50	*Wayland*
George Shiras Call	M	31	*Marquette*
George Stevenson Callahan		27	*Cincinnati, O.*
Ernest Wright Camp			*Saginaw, West Side*
Harvey Blaine Campbell	M	71	*Battle Creek*
Herbert Vincent Campbell			*Ann Arbor*
John David Campbell	M	32	*Royal Oak*
John Wood Campbell	E	101	*Napoleon, O.*
Robert Thomson Campbell			*Grand Rapids*
De Forest Wheaton Candler		4	*Detroit*
Clifton O'Neal Carey, B.S., *Haverford College*	C	42	*Wilmington, O.*
Irving James Carmichael			*Calumet*
Dewey L. Carpenter	M	23	*Orion*
Howard Bruce Carpenter	S	23	*Pittsburg, Pa.*
Howard Wiltse Carpenter			*Big Rapids*
Augustus Carrier, Ph.G., *Detroit College of Pharmacy*	E	98	*Ann Arbor*
Ralph Valentine Carrier	E	28	*Three Oaks*
Howard Carroll		4	*Toledo, O.*
John Michael Carroll	M	23	*Avon, N. Y.*
William F. Carroll	C	47	*Chicago, Ill.*
Edgar McMurray Carrothers	M	84	*Dewey, Ind. T.*
George Miller Carter	M	70	*Jackson*
Addison Reading Cary	E	40	*Detroit*
William Mallory Casey		4	*Cedar Falls, Ia.*
Roger Stevens Cathcart	M	70	*Bay City*
Reed John Caughey	M	32	*Erie, Pa.*
Clarence William Chaddock		8	*Benton Harbor*
Albert Rodney Chandler	E	48	*Salem, Mass.*
Max Chandler	E	24	*Jerome*
Rex Chandler	E	24	*Jerome*
Henry Morrison Chapin	S	69	*Ashtabula, O.*
Walter Charles	E	28	*Detroit*
Charles Timothy Chenevert	M	49	*Defiance, O.*
*Arthur Christensen	E	24	*Greenville*
Theodore Ecker Christian		8	*Lakewood, O.*
Henry Austin Christie			*Ann Arbor*
Ralph Lorenzo Chubb			*Ann Arbor*
Claude J. Clark	E	66	*Pottsdam, N. Y.*
Edward Samuel Clark	M	40	*West Brattleboro, Vt.*
George Winfred Clark	E	117	*Grand Rapids*
John Foster Clark		8	*Caro*
Nelson John Clark			*Detroit*
Roy Clark	M	30	*Youngstown, O.*
William Dennison Clark	M	72	*Detroit*

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*Deceased.

Kinsley Napier Clarke	M	113	*Chicago, Ill.*
Lawrence Hutchinson Clarke		18	*Chicago, Ill.*
Carl Howard Clement	M	75	*New York, N. Y.*
Joseph Clune, Jr.	S	30	*Detroit*
Floyd Stockdale Coates		8	*Battle Creek*
Walter Scott Cochrane	M	35	*Pontiac*
Elmer J. Codner	M	110	*Auburn, N. Y.*
Harry Lee Coe	M	70	*Ann Arbor*
Bela Lavern Cogshall	M	106	*Muskegon*
Clyde Willard Colby		8	*Leavenworth, Kan.*
†Daniel Frederic Cole, *a*			*Ann Arbor*
Harrie Newton Cole, A.B.	Ch	149	*Ann Arbor*
Howard Williams Coleman	M	36	*Bradford, Pa.*
James Blaine Thomas Colman	C	36	*Medina, N. Y.*
Hervey Adolf Colvin	M	70	*Adrian*
Nathan Roy Cook	E	62	*Jackson*
Robert Wheeler Cook	C	39	*Hastings*
Harold Louis Cooke		8	*Paw Paw*
Thurlow Emmett Coon, A.B.	M	182	*Ann Arbor*
Royden Watt Cooper	M	24	*Manistee*
Harold Frank Coppes	M	36	*Nappanee, Ind.*
Herbert Rhemsen Cornell	E	75	*Mount Clemens*
Harold Hawley Corson	C	67	*Birmingham*
John Sanders Counselman, B.S., *Virginia Polytechnic Ins.*	S		*Cripple Creek, Va.*
Clyde Curtis Cox	C	54	*Traverse City*
John Lawrence Cozzens	C	74	*Lucerne, Col.*
Graufley Stewart Crane			*Port Huron*
Walter Gardiner Crawford			*Seneca Falls, N. Y.*
Edward James Creighton	C	106	*Franklin, Pa.*
Sidney Willard Crocker		37	*Chicago, Ill.*
Cris Cron	E	107	*Manistee*
Fred Rudolph Cron	C	100	*Manistee*
Corydon Patten Cronk		8	*Newark, N. J.*
Harry Garfield Crosby	Mar	107	*Plainwell*
Volney Robbins Croswell		8	*Moline, Ill.*
Fred Hiram Croxton			*Angola, Ind.*
Harold Burdett Culbertson	M	100	*Charlotte*
Peter Augustine Cummins		12	*Detroit*
Claude Clayton Curtis	M	72	*Battle Creek*
John Spencer Curtis	Ch	68	*Pueblo, Col.*
Samuel Watkins Cushman		8	*Ann Arbor*
Martin Hubert Daane	C	79	*Grand Rapids*
Edward James Dahill		4	*New Bedford, Mass.*
Roger LeBaron Daniel			*Dearborn*
Walter Newberry Darby	E	20	*Cameron, Mo.*
Lynn Stephen Darrow	C	32	*Los Angeles, Cal.*
Jalota Saran Dass	E	55	*Phugwara, Punjab, India*

Francis Patrick Davey	C	36	*Imlay City*
Thomas Richard Davidson	C	28	*Lowell*
Thomas Stephen Davies	M	67	*Detroit*
Cassius Miles Davis	E	36	*Grand Rapids*
Philip Chapin Davis	M	115	*Kalamazoo*
Samuel James Davison	C	28	*Alpena*
Clarence Whiting Davock	M	67	*Detroit*
Harlow Noble Davock			*Detroit*
Arthur Douglas Defoe		8	*West Bay City*
William Harmon DeGraff	M	75	*Detroit*
Joseph Peter DeKorn	C	55	*Kalamazoo*
Charles Blanchard DeLano		8	*Allegan*
Ralph Arthur Deline		8	*Clayton*
Frank Alexander DeLisle	M	40	*Detroit*
Irving Richmond Demorest			*Belding*
John Walter Denison		9	*Grand Rapids*
Isaac DePagter	C	111	*Grand Rapids*
M. Jay DePuy	C	24	*Saline*
Romeyn Finley DeSpelder			*Tecumseh*
William Henry Dessel			*Ida Grove, Ia.*
Charles Dettweiler	C	67	*Leavenworth, Kan.*
John Henry DeVisser	M	69	*Kalamazoo*
Ralph Devries	S	68	*Holland*
Theodore DeVries	E	36	*Drenthe*
Edward Stanton Dibble	E	59	*Ann Arbor*
Ralph Clayton Diggins			*Harvard, Ill.*
Wilson Irving Doan	E	25	*Ann Arbor*
Robert Moxley Dodge	C	55	*Moscow, N. Y.*
Chester Arthur Doty		12	*Lacota*
Roy Atwater Dowd	E	24	*Hartford*
William Chauncey Drake		8	*Saginaw*
Herman Otto Dratz	M	111	*Muskegon*
Harry Lane Dresser	C	69	*Ann Arbor*
Carl Lavern Driggs		16	*Palmyra*
Howard Blaine Drollinger	E	73	*Grand Rapids*
Harold Ducharme	M	35	*Detroit*
Alfred Clayton Duckett	E	20	*Ann Arbor*
Ray Van Dudley			*Armada*
Robert William Duncan	E	32	*Ann Arbor*
John Adams Dunford, B.S., *Mich. Agricultural College*	M	81	*Long Rapids*
Robert Alexander Dunham		4	*Toledo, O.*
Martin James Dunkirk		16	*Grand Haven*
William Albert Dunkley	Ch	43	*Fredonia, N. Y.*
Arthur Fink Dunnebache	M	67	*Lansing*
Joseph Howard Dunsmore			*Detroit*
Henry Post Dutton		24	*Holland*
George Lewis Earle	M	55	*Detroit*

Harold Strickland Eastman		8	*Grand Rapids*
Roy J. Easton	M	68	*Dexter*
Royal Eccles			*Ogden, Utah*
Horace Matthews Edmands	E	35	*Kalamazoo*
Harry Darwin Edwards	M	36	*Williamston*
Ralph Lewis Edwards	Mar	106	*Hinsdale, Ill.*
Walter Emanuel Ehrman	C	121	*Chicago, Ill.*
Leonard Cleveland Eldridge			*Porterville, N. Y.*
Virgil Carter Elliott			*Ann Arbor*
George Warren Elspass			*Armada*
Seth Harrison Ely	E	108	*Rutherford, N. J.*
Warren Edwards Emley	Ch	112	*Philadelphia, Pa.*
Philip Endlich			*Port Huron*
Frank Christopher Engelhart	M	36	*Erie, Pa.*
Baltus Fred Erb	M	36	*Royal Oak*
Albert Louis Ethier			*Hubbell*
Albert de Valois Evans	C	24	*Cheboygan*
Walter Leonard Eyke	E	68	*Muskegon*
Leonard Brace Fain		4	*Carrollton, Ill.*
George Stokes Fanning	C	112	*Detroit*
Ralph Farnum	M	95	*Ann Arbor*
†Henry Hallowell Farquhar, *a*		24	*Rockville, Md.*
Gereau Knox Faulds	E	20	*Amsterdam, N. Y.*
John Morton Fedewa	C	68	*Ann Arbor*
Carl Feiner			*Ann Arbor*
Perry Augustus Fellows	C	118	*Albion*
James Robert Ferguson		5	*Almont*
Willard Edward Ferguson			*Detroit*
George Chauncey Ferris		8	*Hillsdale*
Marion Adelbert Ferris			*Grand Rapids*
Harry Howard Feudner			*Akron, O.*
Charles Francis Finnegan		8	*Louisville, Ky.*
Arthur George Fischer		8	*Cincinnati, O.*
Harold Clinton Fish	C	70	*Allegan*
John Brewill Fisher	M	108	*Detroit*
Martin Rankin Fisher	C	108	*Inkster*
Robert Clarence Fisher			*Omaha, Neb.*
John Arthur Fishleigh, Jr.	C	72	*Chicago, Ill.*
Walter Turner Fishleigh, A.B.	C	175	*Chicago, Ill.*
William James Fitzgerald	E	28	*Flint*
Victor Benedict Fitzpatrick	E	68	*Gaylord*
Reuben John Flaherty		4	*Detroit*
Henry Eells Fletcher	Ch	71	*Detroit*
James Howard Flynn		8	*Niles*
Samuel Robert Foote	E	16	*Ridgeway*
James Forbes	Mar	74	*Port Huron*
Albert Robinson Ford	M	62	*Jackson*
Robert Haight Foreman			*Onsted*

Eugene Peter Forrestel	C	40	*Buffalo, N. Y.*
Guy Thomas Foster	E	57	*Dayton, O.*
Frank Roscoe Fowles	M	110	*Auburn, Me.*
Maurice Winslow Fox	M	109	*Detroit*
Harold Robert Francis	E	28	*Muscatine, Ia.*
Harry Marshall Francis	E	121	*Hillsboro, N. Dak.*
Clyde Edward Frank			*Wayne*
Albert Phillip Frapwell	S	61	*Greenland*
John Ross Frazer		4	*Geneseo, N. Y.*
Harold Blaine French	E	118	*South Haven*
Robert Wilton French	C	72	*Ann Arbor*
William Treadway French			*Malone, N. Y.*
Harold Theodosius Fridborg	M	20	*Ishpeming*
Arthur William Fries			*South Bend, Ind.*
Fred Danforth Frost		8	*Tecumseh*
Harry Henry Frost	C	32	*Bay City*
Henry Louis Fruend		8	*Toledo, O.*
Kanaye Fujita		8	*Tokio, Japan*
Elmer Guy Fuller			*Detroit*
William Henry Fürst	C	70	*Chicago, Ill.*
Stanley Lawrence Fyfe	M	135	*Saint Joseph*
Jesús Villegas Garcia	M	112	*Saint Miguel, Allende, Mexico*
Harry Francis Gardner			*Lyons, N. Y.*
John Carlisle Garrels	Ch	69	*Detroit*
John Gideon Gates			*Clarkston*
Julius Martin Gauss	Ch	28	*Ann Arbor*
Edward Frank Geiger	S	40	*Rogersville*
Tracy Enos Geiger			*Troy, O.*
Henry George	E	67	*Ann Arbor*
Robert Howard George, A.B., *Geneva College*		11	*Beaver Falls, Pa.*
Waldo George Gernandt		13	*Rochester, N. Y.*
James Ralph Gibson			*Northville*
Alanson Losee Gifford			*Gloversville, N. Y.*
Roy Wellington Gifford	M	99	*Romeo*
William Arthur Gifford	M	108	*Romeo*
Herbert John Gilbreath			*Monte Vista, Col.*
Murray Havens Gilcrest	C	38	*Cheyenne, Wyo.*
Irving Leo Gill	C	79	*Grand Rapids*
Charles E. Gillette	E	67	*Niles*
Harry Finley Gilman	E	28	*Duluth, Minn.*
Earl Mansfield Gladden	E	106	*Owosso*
David Harold Goodwillie			*Port Huron*
Irving Dean Goodwin	C	103	*Owosso*
Lee Reeves Goodwin	Ch	97	*Owosso*
Clay Winfred Gordon	E	16	*Fowlerville*
Jacob David Gordon	E	108	*Detroit*

Ray Foster Gordon	C	78	*Howell*
Francis James Gormely	E	64	*Newberry*
Fred Quirk Gorton	E	81	*Ypsilanti*
Nelson Barnes Gosline	C	76	*Chicago, Ill.*
Edgar Nathaniel Gott		12	*Detroit*
Robert Warren Gotshall	C	113	*Toledo, O.*
Carl Louis Gottschalk	E	109	*Quincy*
Jesse Grabowsky		2	*Detroit*
Walter DeWitt Graham	M	38	*Chicago, Ill.*
Harris James Gram			*Menominee*
John Martin Grant	C	109	*Alpena*
Mason Wilbur Gray, Jr.	M	36	*Pontiac*
Charles Kingman Grear	C	102	*Albion, N. Y.*
Clarence Jasper Green	C	47	*Hillsdale*
Edward Guy Green	C	114	*Charlevoix*
George Fuller Green		8	*Kansas City, Mo.*
Guy Stevens Greene	M	68	*Ann Arbor*
John M. Greene			*Escanaba*
Edwin Loomis Grimes	M	56	*Davenport, Ia.*
Ira Rufus Grosvenor	C	36	*Monroe*
George Guckenberger, Jr.	Ch	49	*Cincinnati, O.*
John Henry Guenther	Ch	36	*Jamestown, N. Y.*
Charles Henry Haentjens	Mar	42	*Bay State, Mass.*
†Frederick Homer Hagel, *m*		8	*Pontiac*
Harry Von Lunen Hager		16	*Johnstown, Pa.*
George Everett Haggas		4	*Jamestown, N. Y.*
Charles Watts Hall			*Ann Arbor*
Gerald Packard Hall	M	36	*Monmouth, Me.*
Walter Albin Hall	E	22	*Cassopolis*
Wilton St. John Hall	M	101	*Waverly, N. Y.*
Vernon Halliday		8	*Hudson*
George Washington Hamill		8	*New York, N. Y.*
Donald Morrison Hamilton			*Benton Harbor*
Harry Stevens Hammond	M	60	*Chicago, Ill.*
Mark Arthur Hammond			*Vermontville*
Ralph Volney Hanchett			*Big Rapids*
Herman Henry Hanink	C	72	*Grand Rapids*
Walter Randolph Hans			*South Bend, Ind.*
George William Hansen		8	*Cheyenne, Wyo.*
Carroll Young Harger	C	36	*Niles*
George Lloyd Harman	M	101	*Bay City*
Leonard Stanley Harmer	E	67	*Manistee*
Rawson Benjamin Harmon			*Detroit*
Watson Gilbert Harmon		17	*Toledo, O.*
Charles Lockhart Harper			*Pittsburg, Pa.*
John Clement Harrington		12	*Lake Linden*
Harry Lewis Harris		8	*Chicago, Ill.*
William Frank Harris	C	93	*Bay City*

William Haste Harris		4	*Detroit*
Russell Edwin Harrison	C	136	*Ann Arbor*
Tom Hind Hudson Harrod	C	42	*Surrey, England*
Joseph Harry	M	28	*Detroit*
Earl Stewart Hartenstein		8	*Constantine*
Evan Charles Harter		8	*Niles*
William Gould Harvey	Ch	42	*Detroit*
Earl Alanson Haskins	M	36	*Cortland, N. Y.*
Donald Theodore Hastings	M	82	*Detroit*
Edward Joseph Haug		12	*Houghton*
Walter Irving Hautau	Ch	59	*Chicago, Ill.*
Ransom Smith Hawley	E	100	*Ludington*
Eli Lewis Hayes	M	109	*Reed City*
Edward Alexander Haynes	M	40	*Port Huron*
James Jacob Haynes	M	75	*Port Huron*
Ralph Smith Heath	C	72	*New Baltimore*
Fred James Hector, Jr.		12	*Allegheny, Pa.*
Louis Orloff Heiges	M	32	*Traverse City*
Edward Adolf Hellberg			*Norway*
George Whitney Hendry			*Detroit*
James Rowley Hendry	C	100	*Ann Arbor*
George Arthur Henig	C	44	*Adrian*
Edward Frederic Henne		8	*Saline*
Arthur Guy Henning	E	38	*Ann Arbor*
William Russell Henry	C	40	*Williamsport, Pa.*
Ernest Ferdinand Hess	Ch	45	*Toledo, O.*
Forrest Arba Hewit		44	*Meadville, Pa.*
James Frank Hewson			*South Haven*
Frank Meek Hiatt	Mar	55	*Coldwater*
Foy N. Hibbard			*Fayette, O.*
Chester Harrington Hickler		4	*Sault Ste. Marie*
Percy Rosecrans Hicks	M	71	*Alpena*
Robert Marshall Hidey	M	80	*Mount Pleasant*
Roy Olin Higgs	E	57	*Forestville, N. Y.*
Ross Daniel Hildebrant	C	105	*Howell*
Ross Oel Hinkle	E	107	*Fenton*
Stacy Barcroft Hinks		8	*Alpena*
Robert Paul Hinrichs			*Davenport, Ia.*
Jesse Frederick Hirschman	C	85	*Detroit*
Welby Ashbury Hoblit	M	24	*Lincoln, Ill.*
Howard Robinson Hodges			*Detroit*
Theodore Robinson Hodges			*Detroit*
Walton Beatty Hodges	C	73	*Jackson*
William Robert Hoeck	M	113	*Elmhurst, Ill.*
Fenn Mitchell Holden	M	28	*Union City, Pa.*
Ralph Holkins		29	*Litchfield*
Howard Kingsbury Holland	C	29	*Cassopolis*
Ray Kingsbury Holland	E	30	*Cassopolis*

Francis Hiel Hollister	E	147	*Cambridge, N. Y.*
Harold Wheeler Holmes	M	108	*Detroit*
John Frederick Holmes			*Detroit*
Edward Morton Honey	C	34	*Bay City*
Ray Phelps Hoover	M	24	*Chicago, Ill.*
George Hayes Hopkins	C	85	*Lansing*
John Henry Hoppin	M	84	*Niles*
Frank Arnold Horner		12	*Reed City*
Robert Ethelbert Hoskin	C	28	*Akron, O.*
Lawrence Everett Hotchkiss	M	28	*Chicago, Ill.*
John Heiley Hough			*Ceresco*
Horace Henry Howard	M	89	*Churchville, N. Y.*
Perry Eugene Howard	E	42	*Ionia*
Jackson Glenn Howell		10	*Albion*
Franklin Johnson Howes	C	74	*Decatur, Ill.*
Sidney Merrill Hoyt	C	82	*Jamestown, N. Y.*
George Holland Hubbard	S	8	*Ann Arbor*
Alexander Edwin Hubbell	C	32	*Ann Arbor*
Frederick Augustus Hubbell			*Cedar Falls, Ia.*
Fred Shipman Huff		12	*Gobleville*
Emerson Church Hull	Ch	32	*Ann Arbor*
Arthur Theodore Hunt	E	113	*Ann Arbor*
Ormond Edson Hunt	M	77	*Saranac*
Emil William Hutchenreuther		8	*West Bay City*
Edwin Foy Hyland	Ch	59	*Butte, Mont.*
Henry Hyman	C	60	*Mount Vernon, O.*
Thomas Martin Jackson	M	107	*Saginaw*
Earl Nichol James	C	22	*Vandalia*
Arthur Edward Janke			*Trenton*
Frederick Lysle Jeffers	C	40	*Leavenworth, Kan.*
Edward Spencer Jenison, Jr.		19	*Chicago, Ill.*
Walter Samuel Jennens	S	36	*Salt Lake City, Utah*
Lee Royal Jenney, A.B.	C	140	*Ann Arbor*
Dwight Frank Jennings, Jr.	C	40	*Thornton*
Ralph Drury Jennison	M	51	*La Grange, Ill.*
George Augustus Jessop		24	*York, Pa.*
Dwight Cecil Jewett		8	*Richland*
Guy Whitcomb Joclyn	C	105	*Leavenworth, Kan.*
Charles Stewart Johnson			*Wyandotte*
Clayton Oscar Johnson		8	*Jamestown, N. Y.*
George Lorimer Johnson	M	90	*Chicago, Ill.*
Leon Henry Johnson	Mar	30	*Jamestown, N. Y.*
Oliver Frederick Johnson	E	71	*Greenville*
Waldo Macdonald Johnson	M	32	*Detroit*
Frank Martin Johnston	C	103	*Wheatland, Wyo.*
William Demorest Johnston	E	120	*Milford*
William Robert Johnston			*Chicago, Ill.*
Benjamin Earl Jones	C	28	*Erie, Pa.*

Harold Clinton Jones	Ch	70	*Quincy*
Russell Gwilym Jones	E	79	*Van Wert, O.*
C. Harris Judd		4	*Attica*
Lincoln Thaddeus Judd		8	*Detroit*
Milo Oliver Judd	E	69	*Ann Arbor*
Frederick Charles Kahle, Jr.	E	109	*Menominee*
George Arthur Kahn	C	32	*Detroit*
Leopold Joseph Katziantschitsch		8	*Bay City*
George Irving Keal	M	115	*Dexter*
James Edward Keegan			*Grand Rapids*
Ralph Whittlesey Keeler	M	50	*Detroit*
James Trafton Keena			*Detroit*
Mylne Maurice Keena			*Detroit*
Russel George Kelley	M	32	*Detroit*
Charles Dane Kelly	M	102	*Mount Clemens*
Harry Conner Kelly		8	*Mount Clemens*
Joseph Edward Kelly		4	*Lowell*
Walter Frank Kelsey		4	*East Aurora, N. Y.*
Andrew Judson Kempton	C	32	*Barre, Vt.*
Warren Francis Kendrick	M	108	*Ann Arbor*
Clifford Stewart Kennedy	E	105	*Niles*
George Eaton Kephart	C	46	*Berrien Springs*
William Robertson Kepler		18	*North Girard, Pa.*
Walter Brown Kern	M	42	*Dayton, O.*
Thomas Sylvester Keveney	E	53	*New York, N. Y.*
Walter Cole Keys	E	70	*Glendale, O.*
Lloyd Ray Kimmel	E	41	*Ypsilanti*
Horace Burbank Kimmey			*Whitehall*
Clyde Arthur Kindig	M	62	*Akron, O.*
Justin Thomas Kingdon	C	115	*Ann Arbor*
Howard Kipp	C	60	*Greenville*
Arthur Collins Kirby	C	24	*New Bedford, Mass.*
John Christian Klag			*Toledo, O.*
William Henry Klein	Ch	105	*Kansas City, Mo.*
William Edmund Kleiner	M	44	*Detroit*
Harmon J. Kline		12	*Alpena*
Paul Edwin Knapp		4	*Coleman*
Frederick Evoy Kneip	C	106	*Ypsilanti*
Alvin Bruce Knight		8	*Pontiac*
William Clark Knight	Mar	91	*Westboro, Mass.*
Clarence Carl Knipmeyer	E	76	*Higginsville, Mo.*
Edward Moore Knox	C	74	*Ann Arbor*
George Henry Knutson	C	42	*Muskegon*
James Henry Koehler			*Saginaw*
William Edward Kohler			*Toledo, O.*
Marion Den Herder Kolyn			*Grand Rapids*
Milton Harris Kramer	Ch	80	*Cadillac*
Victor William Krause			*Grand Rapids*

Clarence Henry Kremers	M	112	*Holland*
August William Kretzshmar	Mar	36	*Detroit*
*Gerald Ezra Krupp		14	*Saginaw*
George Hans Kuhn	C	74	*Chicago, Ill.*
Homer John Kunz		4	*Toledo, O.*
Armen Stephen Kurkjian	M	32	*Grand Rapids*
Alvis Kusic	E	12	*Iroquois, N. Y.*
Arthur Henry August Kutsche		16	*Mount Clemens*
Rudolph Paul Kutsche	E	36	*Grand Rapids*
Merle J. La Croix			*Lima, O.*
Albee Lovejoy Ladd	E	41	*Osceola, Wis.*
Lewis West Lamb	E	72	*Greenville*
Walter Eugene Lambert			*Ann Arbor*
George William Lamke	E	111	*Detroit*
Wilfred Elliott Lamm	E	62	*Danville, Ill.*
Walter Henry Lane	C	64	*Friendship, N. Y.*
William Raymond Lane			*Detroit*
Leon Karl Laney	S	50	*Lima, O.*
Ernst Frederick Lang	C	40	*Detroit*
Joseph Kerr Langfitt	M	72	*Allegheny, Pa.*
Samuel Pierpont Langley	M	67	*Ann Arbor*
Jesse Raymond Langley	E	28	*Alva, Okla.*
Hector George Lareau		29	*Detroit*
Henry Larsen	M	116	*Eastlake*
Frank Woodin Lathrop			*Birmingham, Ala.*
Percy Mapes Lau	C	24	*Detroit*
Elmer Claude Lawton	M	70	*Lawtons, N. Y.*
Glenn Joshua Leach		4	*Ann Arbor*
Ira Henry Lecklider, Jr.			*Toledo, O.*
Arthur White Leet	E	36	*Fredonia, N. Y.*
Arthur Edward Legg	Ch	71	*Coldwater*
Paul Leidy			*Toledo, O.*
J. P. Leland	C	32	*Hart*
Andrew Lenderink	M	61	*Kalamazoo*
Harry Harrison Levene	Mar	37	*Detroit*
Arthur Ramsdell Lewis			*Bay City*
George Eveline Lewis	E	44	*Ypsilanti*
Washington Bart Lewis	C	73	*Marquette*
Charles Coe L'Hommedieu	M	40	*Detroit*
George W. Cass Lightner	E	40	*Detroit*
Charles Ellis Lilley	E	28	*California, Pa.*
Clinton Donald Lindsey		8	*Johnstown, Pa.*
Arthur Frank Liska			*Detroit*
James John Livingstone		4	*Menominee*
Don Willett Lobdell			*Flat Rock*
Calvin Arthur Lohmiller	C	76	*Ann Arbor*
Charles Arthur Longstreet		4	*Youngstown, O.*

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*Deceased.

Walter Thomas Loomis			*Omaha, Neb.*
Marcus Thompson Lothrop	Ch	115	*Buffalo, N. Y.*
Merrill Rowe Lott	E	32	*Elk Rapids*
John Edward Loughrey	E	20	*Waterport, N. Y.*
Hansell William Loveland			*McDonald, Pa.*
Alfred Henry Lovell			*Niagara Falls, Ont.*
Everett John Lovett	M	104	*Chicago, Ill.*
Dwight Everard Lowell	M	110	*Auburn, Me.*
Carl Earl Loyster		4	*Hudson*
John Paul Lucas	E	81	*Ontario, Cal.*
Howard Ivan Ludwig		16	*Ann Arbor*
†Roy Vincent Lull, *a*		4	*Ithaca, N. Y.*
Hugh John Lumsden	C	110	*Ann Arbor*
Edgar Lussky	E	81	*Chicago, Ill.*
Harry Milton Luttenton	C	71	*Jackson*
Frank Cegarra Luza	E	29	*Iquique, Chili, South America*
James Duncan Knapp Lyman, A. B.	C	152	*Norwalk, O.*
Malcolm Patrick Lyon	E	32	*Sault Ste. Marie*
Daniel Handley McAllister	M	32	*Salt Lake City, Utah*
Reubin McArthur	C	36	*Lapeer*
Bert Gordon McCarthy			*Kingsley*
John Alexander McCarthy	Mar	59	*Kingsley*
Harry England McCool		4	*Leavenworth, Kan.*
Daniel James McCormack	M	52	*Ann Arbor*
William Nelson McCoy	Ch	59	*Roseville, O.*
Charles Ewing McCrath	C	32	*Grand Rapids*
Joseph Newton McCreary	C	16	*Toledo, O.*
Edward Joseph McDonnell	M	97	*Port Huron*
William McDowell		8	*Niagara Falls, N. Y.*
Robert Bruce McFarlan	C	54	*Flint*
Malcolm MacHarg		12	*Chicago, Ill.*
James Albert McIntosh			*Detroit*
Fred Washington McKenzie		8	*Alpena*
John Francis MacKey	C	29	*Newberry*
Irwin Bruce McKinney		4	*Holly*
†Henry Westerman McKisson, *l*	M	28	*Toledo, O.*
Norris Raymond Macklem	C	101	*Marlette*
Archibald McLachlan		23	*Port Huron*
Milber Marshall MacLean		16	*Arlington, Mass.*
Angus Roderick McLeod			*Butte, Mont.*
Fred James McNamara			*Howell*
Loren Wallace McOmber	E	70	*Ann Arbor*
David Mac Ritchie	E	73	*Hillsdale*
Andrew Hovgard Madsen	E	28	*Ann Arbor*
Birche Oliver Mahaffey	C	108	*Sulphur Springs, Tex.*
Ralph Elbert Mahaney		8	*Owosso*

Roy Alexander Malcolm	C	56	*Chicago, Ill.*
Arthur John Malcomson		8	*Detroit*
Clarence Oscar Malmberg	E	50	*Austin, Minn.*
Clement Paul Malona	M	70	*Kennedy, N. Y.*
John Lee Manby	C	32	*Battle Creek*
John Markham Manthei		2	*Marquette*
Stuart Fred Marker			*Detroit*
James Harmon Marks	M	36	*Grand Rapids*
Benjamin Raymond Marsh	E	36	*Owosso*
Frank Lee Marsh, Ph.B., *Alma College*	E		*Grand Rapids*
Frank Willard Martin			*Harvey, Ill.*
John Albert Martin	M	28	*Ypsilanti*
William Orrin Mason		12	*Warren, Pa.*
Charles Skinner Matthews		8	*Walled Lake*
Edwin Robert Maurer			*Saint Louis*
Robert Clyde Maxwell	C	94	*Worthington, Pa.*
Richard Bascom May			*Ann Arbor*
Harold LeRoy Mead			*Escanaba*
Julian Curtis Mead			*Detroit*
Robert Beath Mead			*Escanaba*
Ory Glenn Meek			*Morgan*
George August Meier	E	63	*Whittaker*
Frederick William Henry Meiser	C	32	*Detroit*
Solomon Hyman Meister	M	36	*Detroit*
Carl Edward Mensing	M	95	*Chelsea*
Harvey Milton Merker		8	*Detroit*
Haines Rennyson Merritt			*East Aurora, N. Y.*
John Leonard Mess	Ch	69	*Benton Harbor*
Arthur Alexander Meyer	E	76	Detroit
John Louis Meyfarth	Ch	91	*Jackson*
Perry Kay Miller	C	68	*Salamanca, N. Y.*
Ray Andrew Miller		4	*Clarence, N. Y.*
Raymond Edwin Miller	E	104	*Ypsilanti*
Thomas Harold Miller, B.S., *Washington and Jefferson College*	C	94	*Ingram, Pa.*
Carl Glover Milligan	E	22	*Bradford, Pa.*
Adelbert Philo Mills	C	104	*Tecumseh*
Byron Eldred Mills	C	31	*Detroit*
Francis Charlton Mills, Jr.		8	*Cleveland, O.*
Oscar Leroy Mills	C	37	*Joliet, Ill.*
Courtney Newell Mitchell	M	32	*Ann Arbor*
Herbert Cossitt Mitchell		4	*La Grange, Ill.*
Peter Theron Mitchell	E	24	*Charlotte*
Arthur Bernard Modine	M	58	*Chicago, Ill.*
Paul Raymond Moffett			*Williamsport, Pa.*

James H. Molloy, Jr.			*Ishpeming*
Robert Ellsworth Monagle	C	85	*Stanley, N. Y.*
Francis Alexander Montrose	E	69	*Alpena*
†Frank Ludwig Moore, *h*			*Fremont, O.*
James Alfred Moore	C	40	*Traverse City*
Lucian Selwyn Moore, Jr.	M	22	*Detroit*
Stephen Pierson Moore			*Detroit*
William Van Husan Moore	M	16	*Detroit*
Cassius Arden Morford	E	108	*Climax*
George Herbert Morgan	Ch	32	*Youngstown, O.*
George Solomon Morgan		16	*Toledo, O.*
Stuart Gaylord Morley	M	114	*Saginaw*
Christopher George Morrison	C	32	*Wayne*
†George Randolph Morrison, *a*	C	50	*Oak Park, Ill.*
Chester Mott		8	*Metamora*
James Joseph Murphy	C	64	*Detroit*
Ralph Murphy	M	40	*Bangor*
Walter Austin Murphy	Ch	38	*Chicago, Ill.*
John Russell Murray	M	19	*Owosso*
John Sutherland Murray	E	36	*Detroit*
Victor Eugene Murray			*Cincinnati, O*
Harry Albert Musham	Mar	28	*Chicago, Ill.*
Noah Brooks Myers	E	104	*Ingalls, Ind.*
Bernard Nagelvoort	M	103	*Ann Arbor*
John Nils Nagle	C	68	*Washington, D. C.*
Forrest Nagler	M	112	*Middleville*
John Hunter Nead		4	*Kansas City, Mo.*
Adrian John Neerken	M	135	*Holland*
Levi Heinrich Neilson	C	76	*Greenville*
Walter Neilson		17	*Chicago, Ill.*
Alvin Holthe Nelson	M	82	*Muskegon*
John Martin Nester	C	106	*Lake Linden*
Raymond Fleming Nichols	C	50	*Spencerport, N. Y.*
Earl Michael Nisen	C	78	*Union Grove, Wis.*
Carl Christian Nissler	C	45	*Butte, Mont.*
Fred Stephenson Norcross, Jr.	M	110	*Menominee*
William Howard Norrington		8	*Bay City*
John Fulton Norris	M	51	*Anna, Ill.*
Robert DeWitt Norris	M	55	*Troy, O.*
Carl Uno North	M	60	*West Bay City*
Wendell Phillip Norton, Jr.		9	*Torrington, Conn.*
Norman Sobieski Nye		8	*Montville, O.*
Archie Oakes	M	45	*Grand Haven*
Falconer O'Brien	M	101	*Detroit*
Joseph Alexander O'Brien, A.M., *Niagara University*	C	72	*Medina, N. Y.*
Joseph Parnall O'Brien		6	*Grand Haven*
James Matthew O'Dea			*Pontiac*

William Wallace Odell	Ch	46	*Chicago, Ill.*
Herman John Oldach	Ch	57	*North East, Pa.*
Wallace Nehemiah Osburn	M	69	*Detroit*
Earl William Osgerby		8	*Howell*
Edward Ottomann, Jr.	C	71	*South Haven*
Frank Silas Packard		8	*Sturgis*
Harry Charles Padberg	E	44	*Detroit*
Clifford Alson Paige	C	32	*Grand Rapids*
Felipe Gomez Palacio, B.S., *St. Louis College*	C	53	*Durango, Mex.*
Henry James Palmer	C	65	*Greenville*
Percy Austin Palmer	C	111	*Geneva, N. Y.*
Roy Dalliba Palmer	M	68	*Smith's Creek*
Ralph Hildreth Pardee			*Pontiac*
Frederick Edwin Park	Ch	120	*Adrian*
Alvah Charles Parker		8	*Lansing*
George Andrew Parker, B.S., *Michigan Agricultural College*	E	81	*Ann Arbor*
Burritt Alton Parks	M	43	*Detroit*
Frank Avery Parks		8	*Youngstown, O.*
Lyle George Parrott	C	32	*Mount Clemens*
James William Parry	E	71	*Ann Arbor*
Clarence Elmar Partch			*Des Moines, Ia.*
John Francis Pascoe	C	36	*Republic*
Arthur Gray Pashby	E	98	*Constantine*
Charles Lawson Patterson	E	40	*Pueblo, Col.*
Frank Patterson	Ch	24	*Saginaw*
William Henderson Patterson, B.S., *Geneva College*	C	35	*Beaver Falls, Pa.*
Harry Lanphier Patton	M	72	*Springfield, Ill.*
Carl Erik Paulson	C	35	*Omaha, Neb.*
Stanley Walter Payne	M	28	*Detroit*
William Arséne Payne		8	*Akron, O.*
Thomas Arthur Pearson		8	*Leavenworth, Kan.*
Edward Graeme Peattie	C	54	*Chicago, Ill.*
Fred Pardington Peel			*Ann Arbor*
Chester A. Perkins	M	77	*South Bend, Ind.*
Harry Richardson Perkins		8	*Cuylerville, N. Y.*
Louis MacKenzie Perrin	E	73	*Detroit*
Don Stuart Perry	E	20	*Fayette, O.*
Harry Frederick Petersmeyer	E	54	*Cherokee, Ia.*
George Andrews Peterson			*Detroit*
Walter Carl Peterson	M	36	*Muskegon*
John Halmer Pettitt	C	24	*Benzonia*
Edward Payne Phelps			*Niles*
Leon Harvey Phelps		8	*Indian Falls, N. Y.*
Benjamin Simpson Philbrick			*Friendship, N. Y.*

James Harvey Phinney	C	66	*Detroit*
Edwin Sibley Pierce		16	*Kansas City, Mo.*
Claude Owen Pinch	E	118	*Battle Creek*
Walter Frederick Plett		8	*Cadillac*
Roy Alfred Plumb	Ch	110	*Fenton*
Walt Alfred Plumb		8	*Holly*
Floyd Simpson Poe	E	36	*Iron Mountain*
William Henry Pollard		12	*Seneca Falls, N. Y.*
George Stanley Porter	M	74	*Jackson*
John Jamison Porter		6	*East Jordan*
Ralph Waldo Porter	C	38	*Galesburg, Ill.*
Hoyt Post, Jr.	C	20	*Detroit*
Rossiter Raymond Potter	M	73	*Kalamazoo*
Clyde Volney Powers	C	35	*Montpelier, O.*
Whitney Matthews Prall	Mar	114	*Pontiac*
Joseph Major Pratt	M	108	*La Grange, Ill.*
Walter Mitchell Pratt	C	26	*Detroit*
John Davidson Price	C	70	*Detroit*
Gustav Edward Priess	E	41	*Saginaw*
Francis Courtney Gale Pryor			*Houghton*
Howes James Quale	Ch	50	*Silver Creek, N. Y.*
Maurice James Quinn			*Saginaw*
Edgar Raish			*Marquette*
Claude Norris Rakestraw	E	40	*Toledo, O.*
Horace Patton Ramey	C	105	*Carlisle, Ky.*
John Roy Ramsey	E	28	*Youngstown, O.*
Emmons Blaine Randall		8	*West Bay City*
Christian Rasmussen	Mar	38	*Muskegon*
George Alexander Ray	C	64	*Detroit*
Clarence Melvin Raymond		16	*Jackson*
Forrest Clyde Reed	M	40	*Empire*
Ralph John Reed, B.L., *Pomona College*		61	*Whittier, Cal.*
Russell Shattuck Reed	C	113	*Chicago, Ill.*
William Henry Rees		28	*Scranton, Pa.*
Louis John Rehberg	M	32	*Ann Arbor*
Lon Grenard Reid	E	87	*Akron, O.*
Russell James Reid	C	20	*Battle Creek*
Fred Reiff		8	*Owosso*
Foster Rood Renwick			*Grand Rapids*
Dee Allen Reynders			*Ann Arbor*
Henry Fish Reynick	C	28	*Saginaw*
Robert Albert Reynolds	E	65	*Detroit*
Walter Kremer Rhodes, Ph.B., *Bucknell University*	E	64	*Emmitsburg, Md.*
Wilder Meloy Rich	C	73	*Grand Rapids*
Karl Greene Richards		4	*Buffalo, N. Y.*
Edwin Archibald Ridell	Ch	36	*Youngstown, O.*

William Herman Riecks	M	74	*Alpena*
Herbert Spencer Ripley	C	110	*Galveston, Tex.*
Clyde Louis Ritter	C	36	*Bay City*
Archer Willard Robb	E	36	*Adrian*
Cyrus Ewell Roberts		8	*Three Rivers*
Irving Thomas Roberts			*Highland, O.*
Paul Sidney Roberts	C	113	*Grant*
†Charles Adolph Robertson, *a*	Ch	81	*Muscatine, Ia.*
George Nichol Robertson		8	*Grand Haven*
James Alexander Robertson	C	59	*Escanaba*
Elbert James Robinson	C	79	*Fredonia, N. Y.*
Philip Hiram Robinson			*Coldwater*
Otto Carl Rohde		8	*Saginaw*
Charles Roy Rook		17	*Bowen, Ill.*
Walter Scott Rosenthal		8	*Toledo, O.*
George Wade Ross	C	99	*Fostoria, O.*
Prescott Burton Ross	C	42	*Detroit*
Robert Burton Rouse	M	75	*Bay City*
Thorstein Sigurd Rovelstad			*Elgin, Ill.*
Floyd Arthur Rowe	Mar	30	*Battle Creek*
Frank Thompson Rowell		20	*Louisville, Ky.*
Harvey Curtis Roys			*Grand Rapids*
Lawrence Roys	M	120	*Saginaw*
Mason Pittman Rumney	M	79	*Detroit*
Ernest Amasa Rush	C	36	*Owosso*
Alexander Stuart Russell	E	34	*Petersburg*
Charles Comstock Russell	E	32	*Grand Rapids*
Garfield Hugh Russell, A.B., *Fairmount College*	C	58	*Wichita, Kan.*
Richard Ryan	C	97	*South Bend, Ind.*
Thomas Joseph Ryan			*Sault Ste. Marie*
Willis Thomas Ryan	C	32	*Detroit*
Roberto Ge Sada	C	55	*Monterey, Mex.*
Walter Edwin Saenger	Ch	32	*Detroit*
John Harry Sage			*Port Huron*
Henry Louis Sampson	E	69	*Niles*
Duncan Archibald Samson			*Blenheim, Ont.*
Leigh Russell Sanford		4	*La Grange, Ill.*
Clyde Ashton Saunders	M	73	*Cadillac*
Henry J. Savage	M	36	*Dowagiac*
Kenneth Ingalls Sawyer	C	66	*Menominee*
James Blaine Saxton		8	*Lambertville*
Ralph Thomas Sayles		8	*Owosso*
Carl Schacht		10	*Erie, Pa.*
Marmaduke Dunn Schalk		18	*Conneaut, O.*
Clayton John Schenk	C	36	*Chelsea*
Irving John Scherer			*Benton Harbor*
Andrew George Schlee	M	20	*Delray*

Harold Edgar Schlesinger			*Detroit*
Anton Augustus Schlichte		8	*Chicago, Ill.*
Burton Jacob Schnur	E	24	*Glencoe, Ill.*
Bert Richtig Schober	Ch	28	*Iron Mountain*
William Frederick Schregardus	E	106	*Prairie City, Ia.*
Arthur Ferdinand Schreiber		8	*Michigan City, Ind.*
†Orlin Jacob Schrock, *a*		4	*Goshen, Ind.*
Adolph George Schulz	Mar	20	*Fort Wayne, Ind.*
Karl DeWitt Schwendener	C	36	*Saint Joseph*
Earle Barnes Scott	Ch	131	*Sterling, Ill.*
Leopold Eden Scott			*Cayman Brac, British West Indies*
Walter Glen Scott		8	*Fenton*
Ward Andrus Scranton			*Detroit*
Augustus Jae Sears	E	36	*Chicago, Ill.*
Orrin George Seaver			*Ypsilanti*
Warren Osman Seelye		8	*Detroit*
Dan Klinge Segur	Ch	40	*Toledo, O.*
James Ferris Seiler	C	26	*Hillsdale*
Zina Elliott Sevison	C	113	*Constantine*
William James Shackelton		8	*Grand Rapids*
William Day Shannon	C	62	*Morenci*
Harold Caswell Sharpe	M	35	*Grand Rapids*
Frank Thomas Shaw	C	56	*Elm*
Howard Johnson Shaw	E	36	*Detroit*
Harold Hutchison Shearer	E	32	*Bay City*
James Shearer, 2nd	M	40	*Bay City*
William Henry Shenk			*Grand Rapids*
Bernard Lacey Sherman			*Marquette*
Henry Andrew Sherman	C	110	*Owosso*
Russell Alger Shields		8	*Hancock*
Robert Arnold Shryock	E	38	*Johnstown, Pa.*
Harry Augustus Shuptrine	C	28	*Detroit*
Wesley Banks Sibley	E	20	*Pontiac*
Jay Delivan Sidener	C	99	*Sturgis*
Raymond Byron Silverman	Ch	106	*Kalamazoo*
John D. Simmers	C	36	*Grand Rapids*
Carl Jule Simon		8	*Van Wert, O.*
Zera Simon		10	*Chicago, Ill.*
Orson L. Simpson	C	52	*Freeport*
Arthur Benjamin Singleton			*Mendon*
George Duffield Slaymaker	M	115	*Detroit*
John Klein Sloatman	C	40	*Williamsport, Pa.*
Edward Alonzo Small, Jr.	Ch	43	*Highland Park, Ill.*
Sidney Ruggles Small		12	*Saginaw*
Clyde Edward Smedley	E	34	*Grand Rapids*
Maurice David Smilansky	E	105	*Detroit*
Elroy George Smith	C	36	*Grand Ledge*

Howard Freeman Smith	M	32	*Bay City*
Ray Francis Smith	M	105	*Hanover*
T. Albert Smith		8	*Paw Paw*
Trebor Horace Smith			*Kansas City, Mo.*
William Edward Smith			*Perry, N. Y.*
Worth James Smith	E	108	*Saginaw*
Ray Evart Snider	E	12	*Cadillac*
Shirley Clifford Snow			*Chicago, Ill.*
Bert Maxwell Snyder			*Chelsea*
Arthur Emerson Sortore		4	*Belmont, N. Y.*
Cleon Perry Spangler	C	32	*Saginaw*
Arthur D. Spencer	E	113	*Ann Arbor*
Charles Guido Spencer			*Ottawa, O.*
Charles Willett Spooner	C	133	*Grand Rapids*
Paul Horatio Stambaugh	M	30	*Youngstown, O.*
Rex Cameron Starr	C	78	*Coldwater*
Louis Marrion Stellmann		28	*Brattleboro, Vt.*
Leigh James Stephenson			*Port Huron*
Edwin Miller Sterner			*Flint*
Leigh E. Stevens	C	99	*Dowagiac*
Roe Belknap Stevens			*Whitmore Lake*
Earl Hugh Stewart	E	93	*Big Rapids*
George Milton Stewart		24	*Ypsilanti*
Raymond Griffiths Stewart	M	69	*Bay City*
Roy Page Stewart		4	*Chicago, Ill.*
Edward Noble Stimson	M	55	*Detroit*
Ernest Gustav Stock	M	62	*Sioux City, Ia.*
Lewis Cleveland Stockdale			*Stockdale, Pa.*
John Milton Stoddard		22	*Bay City*
Louis Lambert Stone	C	28	*Caledonia*
Samuel Anthony Stranahan	M	49	*Wauseon, O.*
Harry Straub	E	107	*Dowagiac*
Bernhard Stroh, Jr.	M	65	*Grosse Pointe*
William Yrot Stroh	Ch	93	*Coldwater*
Sidney Davis Strong, A.B., *Kalamazoo College*	C	62	*Kalamazoo*
George Eliott Sturt			*Flint*
Maurice Joseph Sullivan	C	32	*Detroit*
Raymond Henry Sullivan		16	*Chicago, Ill.*
Floyd Daniel Sutherland			*Metamora*
James Irving Sutherland	M	74	*Detroit*
Otho Monroe Sutherland			*Ann Arbor*
Roy Ellsworth Sutton			*Pontiac*
Henry Bennett Swan	Ch	36	*Detroit*
Ralph Todd Swezey		8	*Ann Arbor*
Roscoe Lovejoy Taft	M	68	*Ann Arbor*
John William Tait	S	28	*Detroit*
Thomas James Tervial Tait	E	64	*Ann Arbor*

Harry Lawrence Tanner	E	26	*Cortland, N. Y.*
Gordon Tarbell			*Rushford, N. Y.*
Theron Clark Tayler	M	32	*Detroit*
David Taylor	C	72	*Ann Arbor*
Edward Clark Taylor	C	34	*Ann Arbor*
John Alfred Teare		8	*Chicago, Ill.*
William Wolcott Tefft	C	72	*Jackson*
Arthur Gustav William Templin	E	58	*Detroit*
Colon Monroe Tenny		8	*Fenton*
George William Terry	M	74	*South Haven*
Ellis Wilby Test	M	109	*La Porte, Ind.*
George Newton Thall			*Alpena*
Lawrence Thomas	Ch	32	*Ann Arbor*
Lawrence Macy Thompson			*South Haven*
Ira Baldy Thomson		8	*Providence, R. I.*
Charles Astor Thornburgh	M	47	*Toledo, O.*
Howard Sloane Thorne			*Bay City*
Isaac Jay Thorp	E	106	*Toledo, O.*
Henry Hoag Tibbs	C	88	*Grand Rapids*
Louis DeWitt Tinkham		8	*Traverse City*
Oliver Julian Todd	C	32	*Ann Arbor*
George Seely Towar	E	24	*Detroit*
Glenn Lewis Tower	Ch	23	*Ann Arbor*
Frank Eugene Town	E	16	*Jackson*
Leigh DeLos Townsend		8	*Saline*
Neil Sherman Townsend	M	66	*Ionia*
Ray Elnathan Townsend	C	44	*Leonard*
Fred Hall Tracy	M	74	*Grand Rapids*
Carl Elmer Traut		4	*Battle Creek*
Alfred Alanson Treadway	C	73	*Grand Rapids*
Horace Alanson Treat		8	*Adrian*
Alexander Linn Trout, A.B.	Ch	139	*Ann Arbor*
Byram Clarkson Trueblood	Ch	106	*Ann Arbor*
Harold Magnus Tschirgi	S	25	*Dubuque, Ia.*
Fred Henry Tuck	M	103	*Belding*
Albert Tucker			*Imlay City*
Hubert Southwick Tullock	C	89	*Leavenworth, Kan.*
Mahlon Cleveland Tunison	C	67	*Fenton*
Thomas Turk		8	*Pontiac*
Benjamin Sayre Tuthill			*Detroit*
Charles LeRoy Tuttle	E	75	*Rochester, N. Y.*
Albert Langham Twitchell		16	*Mansfield, O.*
Frank Stuart Tyler			*Detroit*
Charles John Ullrich	C	106	*Michigan City, Ind.*
Frank Sherman Upham	C	47	*Ann Arbor*
Lloyd Leslie Urich			*Toledo, O.*
Jay DeWitt Utley, Jr.	M	99	*Grand Rapids*

Augusto Valenzuela		20	*Bogota, Columbia, South America*
John Van Haitsma		8	*Grand Rapids*
Charles Craigie Van Valkenburgh, Jr.	C	116	*Fresno, Cal.*
Frank Pierce Van Wye	S	20	*Warren, O.*
Philip Donald Van Zile	C	32	*Detroit*
John Albert Van Zoeren, A.B., *Hope College*	E	102	*Holland*
Donald Olean Vaughn	E	26	*Dexter*
Frank Vaughn	C	61	*Otsego*
Albert Charles Vetter			*Niles*
Eugenio Villa, A.B., *School of Mines, Mexico City*	C	131	*Mexico City, Mex.*
Ivan Blaine Vincent		12	*Medina, N. Y.*
Ivar Oscar von Zellen	C	20	*L'Anse*
Gerrit Waalkes	C	32	*Grand Rapids*
James William Wadsworth, A.B. *Williams College*	E		*Hammondsport, N. Y.*
George Otto Wagenseil	M	32	*Port Huron*
Oswald Martin Wagenseil	E	71	*Port Huron*
Carl Sweetland Wagner	M	70	*Ann Arbor*
Alexander Edward Walker		4	*Detroit*
Fred Mallett Walker	E	50	*Saint Ignace*
Erwin Van Doren Wallace	Mar	67	*Oswego, N. Y.*
John Frederick Wallack, Jr.	M	52	*Chicago, Ill.*
Daniel Hickey Walsh, Jr.			*Plaquemine, La.*
Thomas Robert Walter	C	76	*Kalamazoo*
John Theodore Walther		16	*Ann Arbor*
Victor Simon Walther	E	48	*Ann Arbor*
Evelyn Walton	E	36	*Owosso*
Frank Alanson Walton	C	24	*Ann Arbor*
Harry Collins Walton	C	69	*Plainwell*
Hiram Lessiter Walton	Mar	48	*Pontiac*
Burt Allison Waltz	M	36	*Akron, O.*
William James Fairbairn Ward	C	103	*Detroit*
Eugene Taylor Warner	M	59	*Flint*
Glenn Warner		8	*Grand Rapids*
Henry Lawrence Warner			*Detroit*
Hervey Addison Warner	E	32	*Vermontville*
Cyrus Bert Warren			*Detroit*
Leon Albert Warren	M	63	*Edmore*
William Stephen Wasmund		8	*Detroit*
Jay Rogers Watson	E	112	*Saline*
John Mitchell Watson		8	*Detroit*
Melvin Arthur Watson		8	*Grand Haven*
Clifford Leslie Webb	Ch	52	*Muskegon*
Grable Barceleaux Weber		8	*Saint Louis, Mo.*

Thomas Maybury Weber	S	24	*Detroit*
William Wallace Weber		8	*Salamanca, N. Y.*
Frank Edmund Weeks	M	80	*Muskegon*
Harold Julian Weeks	E	59	*Allegan*
Wesley Charles Weideman	S	27	*Bay City*
Harry Clifford Weirick			*Harrisburg, Pa.*
Grover Cleveland Wellman	C	43	*Clio*
Joseph Amasa Welton			*Grand Rapids*
Roswell Murray Wendell	M	61	*Detroit*
Edward Lucas Wenz	C	44	*Perrysburg, O.*
Ralph Linford Werden			*Crofton, Ont.*
Harry Thomas Wessinger	M	24	*Ann Arbor*
Frank Clifford West			*Fredonia, N. Y.*
Frank Hubble West		8	*Tacoma Park, D. C.*
George Benson Wheeler	Ch	40	*Cortland, N. Y.*
Harold Sayre Wheeler	M	105	*Manistee*
Maurice Walter Wheeler	C	83	*Detroit*
Charles John Whipple	E	85	*Chicago, Ill.*
George James White	Ch	92	*Pontiac*
Henry Berry White	M	36	*Locke, N. Y.*
James Arba White	E	28	*Marshall*
†John Taylor Whitehead, *l*	M	24	*Chicago, Ill.*
John Tolman Whiting		4	*Chicago, Ill.*
Bert Ceylon Whitmore		26	*Charlotte*
William Arnold Whitney		3	*Jamestown*
Lawrence Charles Whitsit	C	74	*Ann Arbor*
Frederik George Whittington	E	20	*East Jordan*
Theodore William Widenmann		16	*Saginaw*
John Leslie Wierengo		16	*Muskegon*
Stanley Boardman Wiggins			*Ann Arbor*
Volney Freeman Wilcox	C	34	*Hastings*
Charles Sherman Wiley	Mar	28	*Oswego, N. Y.*
Ralph Benjamin Wiley	C	111	*Detroit*
Dean Bailey Wilhelm	M	111	*Ann Arbor*
John Chester Wilkie	M	28	*Detroit*
Paul Francis Willard	E	24	*Union City, Pa.*
Harold Beal Williams		8	*Ann Arbor*
Joe Willis	M	107	*Chicago, Ill.*
Walter Irving Willis	E	84	*Buffalo, N. Y.*
†Corwin Dale Wilson, *a*		9	*Flint*
Forrest Earl Wilson			*Caledonia*
Fred Alexander Wilson		5	*Adrian*
Joseph Paul Wilson		10	*Newtown, Pa.*
Osmond Charles Wilson		8	*West Branch*
Roy Sheldon Wilson			*Buffalo, N. Y.*
William Michael Winkler	M	69	*Saginaw*
Clarence Wise	E	54	*Otsego*
Karl Marshall Wise			*Ann Arbor*

Chester Owen Wisler	C	66	*Detroit*
Roy Howard Witwer			*Kalamazoo*
Frederick Lewis Wolf	Ch	36	*Toledo, O.*
Carl Adien Wolfrom		24	*Bellevue, O.*
Lynn Harper Wood	M	30	*Quanah, Tex.*
Edwin Le Grand Woodhams	C	37	*Kalamazoo*
Charles Harold Woodruff	E	38	*Ann Arbor*
Joseph William Woolley, Jr.	M	68	*Youngstown, O.*
Rew Edward Woolley	E	107	*Ann Arbor*
Thomas Robert Woolley	M	31	*Youngstown, O.*
George Gilbert Worden	C	40	*Kalamazoo*
Harry Albert Workman	Ch	72	*Chicago, Ill.*
Glenn Elroy Worthington		17	*Pembroke, N. Y.*
Roy Freeman Wright			*Seneca Falls, N. Y.*
Raab Benjamin Franklin Wuerfel		15	*Toledo, O.*
Albert Eugen Wurster		4	*Ann Arbor*
John Titus Wurster		12	*Ann Arbor*
John Harvey Wyman	Ch	67	*Ann Arbor*
Philip Warner Yallowich	C	99	*Buffalo, N. Y.*
Chen Ku Philip Yao			*Hupek, China*
Allison Talmage Yorton		8	*Ann Arbor*
Arrigo Young	M	108	*Chicago, Ill.*
William John Young	M	40	*Charlotte*
Homer Preston Yutzey	C	37	*Ithaca*
Charles Christian Zabriskie	M	76	*Detroit*
Philip Adolph Zang	Ch	71	*Denver, Col.*
Fred Morrell Zeder		8	*West Bay City*
Oscar Waltermer Zelt	C	73	*Sturgis*
Frederick William Zinser	C	37	*Grand Rapids*

Department of Medicine and Surgery

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WILLIAM F. BREAKEY, M.D.
S. LAWRENCE BIGELOW, PH.D.
SIMON M. YUTZY, M.D.
HARRISON M. RANDALL, PH.D.
FREDERICK L. DUNLAP, Sc.D.
CHARLES W. EDMUNDS, A.B., M.D.
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ROBERT B. BEAN, B.S., M.D.
WARD J. MACNEAL, PH.D., M.D.

Other Instructors, Demonstrators, and Assistants

JEANNE C. SOLIS, M.D.
GEORGE SLOCUM, M.D.
WILLIAM H. MORLEY, PH.B., M.D.
WILLIAM R. LYMAN, A.B.
THEOPHIL KLINGMANN, PH.C., M.D.
JAMES F. BREAKEY, M.D.
CONRAD GEORG, A.B., M.D.
FREDERICK R. WALDRON, PH.B., M.D.
IRA D. LOREE, M.D.
JAMES G. CUMMING, M.D.
BOYDEN NIMS, PH.G.
JAMES F. MUNSON, A.B., M.D.
JOHN F. EASTWOOD, PH.D.
CHARLES F. TENNEY, JR., M.D.
CHRISTOPHER G. PARNALL, A.B., M.D.
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SYBIL M. WHEELER, PH.D.
FRANK J. MELLENCAMP, A.B.
HUGO A. FREUND, A.B., M.D.
JAMES G. VAN ZWALUWENBURG, B.S.
EDWARD H. WELD, A.B.
ANNA C. IVERSON, M.S.
WALES M. SIGNOR, M.D.

Special Lecturers

EDMUND A. CHRISTIAN, A.B., M.D.
JAMES D. MUNSON, M.D., A.M.
HARRY B. HUTCHINS, PH.B., LL.D.
WALTER B. PILLSBURY, PH.D.
CRESSY L. WILBUR, PH.M., M.D.
ELIJAH M. HOUGHTON, PH.C., M.D.
WILLIAM A. STONE, M.D.
EARL H. CAMPBELL, M.D.

STUDENTS*

RESIDENT GRADUATES

NAME	RESIDENCE
Lucy Hannah Hoag, M.D.	*Toledo, O.*
Sobei Idé, M.D., *Sai Sei College*	*Kawakami, Nagano-ken, Japan*

FOURTH YEAR STUDENTS

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NAME	RESIDENCE
Elmer Goodman Balsam	*Manistee*
Robert Hause Beach, A.B.	*Pontiac, Ill.*
Frederick Beekel, A.B.	*Elyria, O.*
Gordon Berry, A.B., *Amherst College*	*Worcester, Mass.*
Joseph Tower Berry, B.S., *Michigan Agricultural College*	*Belding*
Elton Pope Billings, A.B.	*Ann Arbor*
Richard Arthur Bolt, A.B.	*Saint Louis, Mo.*
Fritz Albert Brink	*Meckling, S. Dak.*
Eugene Taylor Brunson, A.B.	*Ganges*
William Sanders Chapin, A.B., *Dartmouth College*	*Chelsea, Vt.*
Leroy William Childs, A.B.	*Ann Arbor*
Frederick Earl Clark	*Dansville, N. Y.*
Herbert Everett Coe, A.B.	*Ann Arbor*
Anna Marion Cooke	*Evansville, Ind.*
George Henry Crary	*Saint Olaf, Ia.*
Marshall Lawrence Cushman	*Brockton, Mass.*
Charles Carroll Demmer	*Belmont, N. Y.*
David Lewis Dunlap, B.S., *Lenox College*	*Hopkinton, Ia.*
Norma Bertha Elles	*Detroit*
Ralph David Engle, A.B.	*Petoskey*
Lemuel William Famulener, Ph.C., A.B.	*Galesburg, Ill.*
Myron Stephen Gregory	*Ann Arbor*
Edward Goodwin	*Bay City*
Hilbrand J. Hards	*Grand Rapids*
John Frank Hastings	*Fort Recovery, O.*
John Francis Hincks	*Manistee*
Lester Orlo Houghten	*Detroit*

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*A dagger (†) preceding a student's name signifies that he also pursued studies, for the whole or a part of the year, in another department of the University, indicated by an italic letter following the name, to-wit: *a*, Department of Literature, Science, and the Arts; *e*, Department of Engineering; *l*, Department of Law; *p*, School of Pharmacy; *h*, Homœopathic Medical College; *d*, College of Dental Surgery. The letter following the name (without the dagger) indicates that the student is pursuing a combined course, leading to a degree in each of the two departments.

Lloyd Watterson Howe	*Boyne Falls*
Ivan Lewis Hunt	*Scottville*
David Sanders Jickling	*Flint*
Catherine Johnston, B.S., *Valparaiso College*	*Taylor, N. Dak.*
Harrie W. Kenfield	*Hastings*
Guy Almeron Klock	*Harrisville, N. Y.*
Don DeWitt Knapp, A.B.	*Fenton*
David J. Levy, A.B.	*Kalamazoo*
Frank Adam McJunkin	*Lucasville, O.*
Fraley McMillan, A.B.	*Berlamont*
Frank Noble Martin	*Saint Joseph*
George Washington More	*Ionia*
John Walter Needles, A.M., *University of Colorado,* D.D.S.	*Pueblo, Col.*
Roscoe Charles Olmstead, A.B.	*Pasadena, Cal.*
Frank Joseph Parizek	*Lidgerwood, N. Dak.*
Paul Morse Patterson	*Kalamazoo*
Esther Kempton Payne	*Gloversville, N. Y.*
Alvin Roy Peebles	*Grand Rapids*
Frank Cleveland Pennell, A.B.	*Lima, O.*
Charles Arthur Peterson	*Crawfordsville, Ind.*
Eryl Smith Peterson	*Brooklyn*
John Hibbard Pettis, A.B.	*Flint*
Julius Henry Powers, Jr., A.M., *Iowa College*	*New Hampton, Ia.*
Lewis D. Remington	*Fenton*
Walter Henry Rieger	*Sandusky, O.*
Orville Rockwell	*Roaring Branch, Pa.*
Fred Schoepfle, Jr.	*Sandusky, O.*
Royston Earl Scrafford	*Gladwin*
Lucetta Amelia Smith	*Ionia*
John William Snyder	*Vandalia*
Arturo Torregrosa, A.B., *Institute of Porto Rico*	*Aguadilla, P. R.*
Chad Adelbert Van Dusen	*Jasper*
Dell Warner Ward, A.B.	*Fairbank, Ia.*
John Taylor Watkins	*Howell*
Anna Weld	*Rockford, Ill.*
Ray Close Whitmore	*Quincy*
Carl John Wiggers	*Davenport, Ia.*
William G. Winter	*Holland*
Frank Clarence Witter	*Lawrence*
Walter Stuart Woodruff	*Dunkirk, N. Y.*
James Anderson Work, Jr., A.B.	*Elkhart, Ind.*
Hessel Sjoerd Yntema, A.B., *Hope College*	*Zeeland*

THIRD YEAR STUDENTS

NAME	RESIDENCE
Hugo Oscar Altnow	*Gaylord, Minn.*
Thaddeus Hoyt Ames, A.B.	*Kalamazoo*
Axel Hjalmar Anderson, Ph.G., *Northern Indiana School of Pharmacy*	*Laurium*
Albert Crum Baxter, A.B.	*Ashland, Ill.*
Clayton Charles Benjamin	*Ann Arbor*
John Charles Benson	*Mount Morris*
Minnie Ethel Pratt Berry, A.B.	*Rockford*
Frederick Nolton Bigelow	*Holly*
Christian John Brobeck	*Butte, Mont.*
William Henry Burmeister, A.B.	*Chicago, Ill.*
Clough Turrill Burnett	*Lansing*
Frederic Clarence Calvert	*Howell*
Wayne Alexander Cochrane	*Jackson*
Bert Wilson Culver	*Coldwater*
Roy Cuthbertson	*Orchard Lake*
Walter Lloyd Finton	*N. Manchester, Ind.*
Oswald Charles Fluemer	*Mount Clemens*
Heman E. Grant, A.B., *Albion College*	*Albion*
Abraham Roydan Gregory, Jr., B.S., *Illinois College*	*Jacksonville, Ill.*
Clive Ewer Hallenbeck	*Canandaigua, N. Y.*
Horace John Howk	*Caledonia, N. Y.*
Annie Fulton Humphreys	*Charlottsville, Va.*
Petko Lazaroff Ivanoff	*Kaily-derè, Bulgaria*
Anna Christine Iverson	*Marcus, Ia.*
Arthur John Jones, A.B.	*Detroit*
Maurice Paxton Jones	*Imlay City*
George Abel Kamperman	*Zeeland*
Matthew Kollig, A.B.	*Silver Creek, N. Y.*
Marion Eleanor Leeper, A.B.	*North Dover, O.*
Saidie Berthalyn Lindeberg	*Miles City, Mont.*
Henry Jay Love, B.S., *Knox College*	*Orion, Ill.*
Floyd Virgil McDonald	*Ann Arbor*
Robert Gordon McKenzie	*Chester, Ill.*
Alexander Reid McKinney	*Ann Arbor*
George Hudson McLellan, A.B.	*Saginaw, West Side*
Frank J. McMichal	*Plainwell*
Ira Albertus Marble, A.B.	*Ann Arbor*
Ernest Gragg Motley	*Virden, Ill.*
LaVern Rogers, A.B.	*Albion*
Lynn Rogers, LL.B., *Indiana Law School*	*Logansport, Ind.*
Maurice Edgar Rosenwasser, A.B.	*New York, N. Y.*
Louis Francisco Ross, A.B., *Indiana University*	*Richmond, Ind.*

Gordon Griffith St. Clair	*Ishpeming*
Shibly Nassif Sallume	*Ann Arbor*
Carl Ahrendt Scherer	*New Ulm, Minn.*
Harvey Brown Searcy, A.B., *University of Alabama*	*Tuscaloosa, Ala.*
Harry Alonzo Sibley	*Pontiac*
Isaiah Sicotte	*National Mine*
Charles Eugene Smith	*Commerce*
Clayton Myron Spencer	*Kalamazoo*
Charles Henry Sproat, A.B.	*Valley Falls, N. Y.*
James Gerrit Van Zwaluwenburg, B.S.	*Ann Arbor*
Ralph Eric Walker	*DeLand, Fla.*
Edward Howland Weld, A.B.	*Rockford, Ill.*
Robert Ellsworth Wells	*Zanesville, O.*
Charles Stuart Wilson	*Detroit*
George Kissick Wilson	*Ypsilanti*
Charles Edwin Wood	*Evansville, Ind.*
Neal Naramore Wood	*Quanah, Tex.*
Rex Spencer Kingsford Wood, A.B.	*Vandalia, Mo.*

SECOND YEAR STUDENTS

NAME	RESIDENCE
Arthur Ludwig Anderson	*Aurora, Ill.*
Clarence Vivian Auld	*Plankington, S. Dak.*
Charles Hodgeson Bailey, A.B., *University of Wooster*	*Philadelphia, Pa.*
Looe D. Baker, Jr., *a*	*Spring Lake*
Albert Stewart Barr	*Grand Island, Neb.*
David Woolfolk Barrow	*Lexington, Ky.*
George Terrell Baskett, A.B., *University of Texas*	*Van Alstyne, Tex.*
Mark Douglass Batties	*Kalamazoo*
George Mitchell Belhumeur	*Champion*
George Samuel Bond, B.S., *Earlham College*, A.B.	*Richmond, Ind.*
Herman Davidson Boyles	*New Castle, Pa.*
Roger William Brookie	*Cutler, Ind.*
William Benjamin Bryant, *a*	*Dayton, O.*
Glenn Allen Bulson, *a*	*Jackson*
Levi Alden Burhans	*Portland*
Alden Marland Bush, *a*	*Denver, Col.*
Howard J. Bush, *a*	*Fenton*
Lloyd Gully Campbell	*Birmingham*
Clyde Lorenzo Carey	*Elmira, N. Y.*
Frank Everitt Carmichael	*Harrisburg, Pa.*
Nellie Malvina Cole	*Michigan City, Ind.*
Ward Eugene Collins, *a*	*Decatur*

Henry Cook	*Burton*
Gladys Adelpha Cooper	*Ionia*
Floyd Erie Coultrap, Ph.B., *Ohio University*	*Athens, O.*
Earl Jonas Crowthers	*Roscoe, Pa.*
Ernest Welker Dales	*Grand Rapids*
James Aloysius Dardas, Ph.B., *St. Jerome's College*	*Bay City*
Willard Woodard Dicker, *a*	*Chicago, Ill.*
Theodore Albert Dillman, A.B., *Capital University*	*Fostoria, O.*
Anstice Ford Eastman, A.B., *Princeton University*	*Elmira, N. Y.*
Henry Salem Edmunds	*Ann Arbor*
Walter George Eisenman	*Monroe*
Clayton James Ettinger	*Mount Pleasant*
Casriel Fishman, Ph.C., *p*	*Grand Rapids*
Floyd Milford Freeman	*Sturgis*
John Gray Gage	*Warren, Pa.*
Charles Harvey George	*Battle Creek*
Bernard Hamlin Glenn	*Howell*
Dean Ely Godwin	*Santa Rosa, Cal.*
Burton Thomas Gordon	*Ludington*
Harry Searls Gradle, *a*	*Chicago, Ill.*
Earle Pope Gregory	*Sidney, N. Y.*
Leon Brayton Harris	*Saginaw*
Cornelia Frances Harrison	*Atlanta, Ga.*
Joseph Daniel Heitger, A.B., *Indiana University*	*Bedford, Ind.*
Lon West Haynes, *a*	*Hillsboro, O.*
Donald Dinnie Johnston	*Albion, Ind.*
Eber Dunbar Kanaga	*Charlevoix*
Clyde Fenworth Karshner, A.B.	*Big Rapids*
John Vincent Kerrigan	*Michigan City, Ind.*
William Sidney Knox	*Detroit*
Emil Otto Krueger	*Michigan City, Ind.*
William Henry Lake, Jr.	*Dowagiac*
Andrew Langenbacher	*North Lansing*
Richard Henry Laning, A.B., *Kenyon College*	*Osaka, Japan*
Mabel Irene Leonard	*Colebrook, Conn.*
Will E. Long	*Negaunee*
John Parker Louden	*Yakima, Wash.*
Asa McCurdy	*Battle Creek*
Clifford Wilmot Mack	*Bad Axe*
Clinton Eber McKinnis	*Nashville*
John D. McKinnon	*Calumet*
Edwina Forest MacPherson	*Fowler*

Mark Marshall, B.S., *Earlham College,* A.B.	*Richmond, Ind.*
William J. Marshall, A.B.	*Ann Arbor*
Clifford David Mercer	*Addison*
Owen E. Metzger	*North Manchester, Ind.*
Bodo E. Miller	*Akron, O.*
Charles William Miller, *a*	*Peoria, Ill.*
Vitaro Mitamura	*Honolulu, Hawaii*
Harrie William Moellering	*Fort Wayne, Ind.*
Richard Hayward Morgan	*Minneapolis, Minn.*
Ashley Walker Morse, *a*	*Ann Arbor*
Thomas Francis Mullen	*Ironwood*
Clarence Franklin Murbach	*Archbold, O.*
Anna Isabel Murphy	*Kalamazoo*
Harry Ware Newman, A.B., *McMaster University*	*Waco, Tex.*
Herbert Nathan Thomas Nichols, A.B., *Dartmouth College*	*Sudbury, Vt.*
Augustus Joseph O'Brien, Ph.C., *p*	*Bessemer*
Freeman Stanislaus O'Brien	*Goshen, N. Y.*
William Weldon Pascoe	*Escanaba*
Arthur Thomas Paull, D.D.S.	*Calumet*
Frank Osborn Paull	*Calumet*
Ralph Reynolds Pinckard, *a*	*Kalamazoo*
Leland Eldorus Phipps	*Kankakee, Ill.*
Reginald Copeland Plummer	*Ann Arbor*
Clarence Probert	*New Cumberland, W. Va.*
Laurence Rutherford Quilliam	*Spokane, Wash.*
Howard Charles Randolph	*Battle Creek*
James Lenox Rea	*Scranton, Pa.*
Walton Karthalo Rexford, A.B.,	*Ypsilanti*
George Allen Ross	*Jamestown, N. Y.*
George Byron Roth, *a*	*Mount Eaton, O.*
John Thomas Sample, *a*	*Saginaw*
Ralph Chester Schaeffer, A.B., *Lebanon Valley College*	*Hummelstown, Pa.*
Ernst Linwood Schaible	*Philadelphia, Pa.*
Albert George Schlink	*New Riegel, O.*
Herman David Schweinhagen, *d*	*Ridgeville Corners, O.*
Blaine Walter Scott, B.S., *Bucknell University*	*Monongahela, Pa.*
Sara Lucy Smalley	*Dansville, N. Y.*
Clarence Snow, B.S., *Harvard University*	*Salt Lake City, Utah*
Emily Sumner Stark, *a*	*Ann Arbor*
Ivan X. Steckle	*Freeport*
Bertha Sabin Stewart, A.B.	*Bay City*
William Sweeny Stucky, A.B., *Bethany College*	*Lexington, Ky.*

Gilbert Joshua Thomas	*Butte, Mont.*
Alfred Amos Thurlow	*Battle Creek*
Lawrence Chatfield Towne	*Geneva*
Raymond Farnham Wafer	*Hornellsville, N. Y.*
George Matthew Waldeck	*Milwaukee, Wis.*
James Malcolm Walsh	*St. Ignace*
Charles Lee Washburne	*Caro*
Edward August Weisenhorn, A.B., *St. Francis College*	*Quincy, Ill.*
LeRoy Wellstead, *a*	*Ann Arbor*
Ernest Sanford Whitlock	*Ann Arbor*
Byron G. R. Williams	*Dansville, Ill.*
Richard Paul Williams	*Montpelier, O.*
Aaron Yaffe	*Ashland, Wis.*
Raymond Albert Young	*Ann Arbor*

FIRST YEAR STUDENTS 117

NAME	RESIDENCE
Theodore Carl Henry Abelmann	*Prairie Farm, Wis.*
James Howard Agnew, *a*	*Lorain, O.*
Oliver Ostrom Alexander	*Deadwood, S. Dak.*
Lindsay Wilson Baskett, *a*	*Van Alstyne, Tex.*
Carl Richard Bassler	*Lima, O.*
Amos Llewellyn Beaghler, *a*	*Ann Arbor*
Lee Myron Bear	*Monticello, Ill.*
Harry Lynn Beers	*Mount Union, Pa.*
S. Anna Bevier	*Auburn, Ind.*
Frederick John Bierkamp	*Wyandotte*
Marion Elizabeth Blackman	*Brooklyn, N. Y.*
Galen Ford Bowman	*Toledo, O.*
Eldred Selden Brandt	*Ontario Centre, N. Y.*
George Mason Brandt	*Ontario, N. Y.*
William Hamilton Brandt	*Ontario, N. Y.*
Guy Davis Briggs	*Detroit*
George Elgie Brown	*Grand Rapids*
Hiram Allan Buell	*Chippewa Falls, Wis.*
Arthur William Bullard	*Hancock*
Albert Hudson Bunshaw	*Haverhill, O.*
Abram David Burr, *a*	*Charlotte, N. Y.*
Austin George Byrd	*Boise, Idaho*
Earl Emery Cannady	*Vandalia*
Otto Leslie Castle	*Kansas City, Mo.*
Lloyd Hart Childs	*Adrian*
Leon Clinton Combacher, *a*	*Osceola, Wis.*
Roy Oscar Cooley	*Rodman, N. Y.*
John Saxton Cooper	*South Bend, Ind.*
Ferdinand Cox	*Jackson*
Howard Hasting Cummings	*Wellsville, N. Y.*
Oliver L. Davidson	*Hubbell*

Howard Hubbel Davis, *a*	*Cleveland, O.*
John R. Davis, Jr., *a*	*Mexico City, Mex.*
Orval Melcher Dickerson	*Mount Vernon, Ill.*
Robert Livingston Dixon	*Angola, Ind.*
William Dressel	*Toledo, O.*
Katharine Louise Eager	*Salt Lake City, Utah*
L. Morgan Fletcher	*Lyons*
Alice Margaret Flood	*Brooklyn, N. Y.*
George Henry Fox, *a*	*Manistique*
Chester William Fugate, Ph.G., *Medico Chirurgical College*	*Du Bois, Pa.*
Allan Cameron Fullenwider	*South Haven*
Angel Manuel Garcia	*Rio Piedras, Porto Rico*
James Olney Goggans, M.S., *Alabama Polytechnic Institute*	*Alexander City, Ala.*
Charles George Goll	*Stryker, O.*
Albert Oscar Goodale	*Petoskey*
Will Ingram Goodwin	*Lexington, Ky.*
Thomas De Witt Gordon	*Somerset Center*
Henri Lucian Grattan, *a*	*Detroit*
Ulysses Sherman Gregg	*Coloma*
George W. Grossnickle	*North Manchester, Ind.*
Bura Fritz Guinand	*Des Moines, Ia.*
†Frederic Homer Hagel, *e*	*Pontiac*
William Henry Hall	*Kittrell, N. C.*
Carl Floyd Hartmann, *a*	*Wauseon, O.*
Ralph Anton Helmer, Ph.C., *p*	*Paxton, Ill.*
Francis Hall Hinrichs, *a*	*Davenport, Ia.*
Joseph Kempton Hoag	*Silver City, N. Mex.*
John Thompson Hodgen, *a*	*Saint Louis, Mo.*
Loy Eugene Hoyt	*Chillicothe, O.*
Arnold Leon Jacoby, *a*	*Downer's Grove, Ill.*
Cecil James Johnston	*Fostoria, O.*
Robert Budd Karkeet	*Iron Mountain*
Edgar Burnett Keemer	*Knightstown, Ind.*
Olin Arvin Kimble, A.B., *Lombard College*	*Carbondale, Kan.*
Sol Bernard Kositchek	*Lansing*
Victor Leo Arthur Langenderfer	*Toledo, O.*
Frederick Leighton, *a*	*Methol, N. Y.*
Rosco Genung Leland, *a*	*Mendon*
James Davis Lewis	*Scranton, Pa.*
Thomas Herbert Lewis	*Saint Charles*
Benjamin Perry Linvill	*Columbia City, Ind.*
George Mitchell Lochner	*Adrian*
Gebhard Joseph Long, *a*	*Tower City, Pa.*
Findlay Nathan Loree	*Boise, Idaho*
Joseph Henry McCann	*Stockbridge*
Elmer George McConnell	*Grand Rapids*
Rollo Eugene McCotter	*Hartford*

Alexander David McCrackin	*Butte, Mont.*
Emory Ford McSherry	*Brookville, O.*
Norman Nathaniel Merriman, A.B., *Lehigh University*	*South Bethlehem, Pa.*
Albert Adolph Mertz	*Corunna, Ind.*
Kinchen Carl Moore	*Wilson, N. C.*
Plinn Frederick Morse, *a*	*Detroit*
Bernece Victor Mounter, B.S., *Valparaiso College*	*Jackson, Cal.*
Frederick Ward Ninde, *a*	*Ann Arbor*
Emily Myers Oberlin, *a*	*Columbia, Pa.*
John William Ovitz	*Platteville, Wis.*
Ross Morris Parker	*Lisbon, N. Dak.*
Harry Evans Patrick, *a*	*Detroit*
Clarence Axtell Penman	*East Chicago, Ind.*
Earl Stevens Porter, *a*	*Galesburg*
Emory Chester Rebman	*Pipestone, Minn.*
Alvan Avery Rosenberry, B.S., *Michigan Agricultural College*	*Oak Park, Ill.*
Richard Schottstaedt, *a*	*Gloversville, N. Y.*
Luther Sheldon, Jr.	*Norfolk, Va.*
Winfield Beck Shepherd	*Three Rivers*
Ferris Nicholas Smith, *a*	*Pontiac*
Franklin David Smith, Jr.	*Cleveland, O.*
Howard Carroll Smith	*Delphi, Ind.*
Oscar David Smith	*Derby, Ia.*
Robert Holbrook Smith, A.B., *Dartmouth College*	*Saint Johnsbury, Vt.*
Clark Dwight Spivey	*Lincoln, Neb.*
Andrew Stanka	*Atlantic Mine*
Robert Page Stark	*Ann Arbor*
Edith Mae Steffener, A.B., *Allegheny College*	*Meadville, Pa.*
Isadore Stein	*Lawton*
John Thomas Sullivan	*Peoria, Ill.*
Richard Moreland Taylor	*Owensboro, Ky.*
Ardus Clair Thompson, *a*	*Franklin, Pa.*
Roy Arthur Townsend	*Leonard*
Roy Karl Truba	*Detroit*
Claude Thomas Uren	*Lead, S. Dak.*
Charles Emmit Varier, *a*	*South Bend, Ind.*
†William Udney Wolcott, *h*	*Menominee*
Luther Fiske Warren, *a*	*Clarkston*
Robert Theodore Whiteman	*Elkhart, Ind.*

SPECIAL STUDENT

NAME	RESIDENCE
Vernon Justin Willey, B.S., *Michigan Agricultural College*, A.M.	*Ann Arbor*

Department of Law

FACULTY

JAMES B. ANGELL, LL.D., *President*
BRADLEY M. THOMPSON, M.S., LL.B.
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EDSON R. SUNDERLAND, A.M., LL.B.
RICHARD D. T. HOLLISTER, A.M.
EVANS HOLBROOK, A.B., LL.B.

Special Lecturers

JOHN B. CLAYBERG, LL.B.
VICTOR C. VAUGHAN, PH.D., M.D., LL.D.
MELVILLE M. BIGELOW, PH.D., LL.B., LL.D.
HENRY C. ADAMS, PH.D., LL.D.
RICHARD HUDSON, A.M., LL.D.
HENRY H. SWAN, LL.D.
FRANK F. REED, A.B.
ALBERT H. WALKER, LL.B.
WILLIAM J. HERDMAN, M.D., LL.D.
JOSEPH H. DRAKE, PH.D., LL.B.
DALLAS BOUDEMAN, M.S.
HARLOW P. DAVOCK, C.E., M.S.
JAMES W. GLOVER, PH.D.
EDWARD S. ROGERS, LL.B.

STUDENTS*

RESIDENT GRADUATES

NAME	RESIDENCE.
Robert Stephenson Simons, B.L., *University of Virginia,* LL.B.	*Charleston, S. C.*
John Robert Albert Waller, B.C.L., *Yale University*	*Dubuque, Ia.*

THIRD YEAR STUDENTS

NAME	RESIDENCE
Alvin Louis Alberti	*Chicago, Ill.*
Leroy Allebach	*New Bethlehem, Pa.*
James Albert Allen	*Keithsburg, Ill.*
Maxwell Blaine Allen	*Charlotte*
Elmer James Alway	*Manistee*
John Willard Anderson	*Pittsburg, Pa.*
Thomas Foster Anderson	*Sidney, O.*
Charles Sumner Andrus, A.B.	*Hastings*
Ray Martin Armour	*Broken Bow, Neb.*
Donald George Bailey	*Sandy Lake, Pa.*
Carleton Reed Bainbridge	*Los Angeles, Cal.*
Horace Henry Baker	*El Paso, Ill.*
Alfred Henry Barlow	*Corry, Pa.*
Alexander James Barnes, A.B., *Cornell College*	*Cedar Rapids, Ia.*
Albert McClellan Barnes, Jr.	*Allegheny, Pa.*
Ray Forrest Barnett	*Ann Arbor*
Francis Harris Bartlett	*Fairmount, Ind.*
Samuel Roy Beal	*Adrian*
Boyd S. Beckington	*Garden Prairie, Ill.*
Glenn C. Beechler, A.B.	*Butler, Ind.*
James William Bell	*Atlantic, Ia.*
Edward Barton Benscoe	*Bessemer*
Frank Fitzgerald Betty	*Davenport, Ia.*
Kern Miller Beurmann	*Howell*
Divie Bethune Duffield Blain, A.B.	*Detroit*
Charles Edward Blanchard	*Blissfield*

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*A dagger (†) preceding a student's name signifies that he also pursued studies, for the whole or a part of the year, in another department of the University, indicated by an italic letter following the name, to-wit: *g,* Graduate School; *a,* Department of Literature, Science, and the Arts; *e,* Department of Engineering; *m,* Department of Medicine and Surgery; *p,* School of Pharmacy; *h,* Homœopathic Medical College; *d,* College of Dental Surgery. The letter following the name (without the dagger) indicates that the student is pursuing a combined course, leading to a degree in each of the two departments.

Walter John Bookwalter	*Danville, Ill.*
Eugene Vincent Boughton	*Evart*
Charles Barton Bowman	*Coon Rapids, Ia.*
Thomas Chauncey Bradfield	*Logansport, Ind.*
Benjamin Paul Brasley	*Pittsburg, Pa.*
Charles Orrin Briggs, A.B.	*Red Oak, Ia.*
Lawrence Christian Brodbeck	*Saint Marys, O.*
Melville Dadmun Brooks	*Saginaw*
Harry Cooke Brownlee	*Kingfisher, Okla.*
J. Irving Bryant	*Cheboygan*
Clyde Charles Buttrick	*Ada*
Harry Winfield Cannon	*Swissvale, Pa.*
Leland Walker Carr	*Pinckney*
Carroll Caruthers, Ph.B., *Bucknell University*	*Irwin, Pa.*
Edward Hazen Chandler	*Independence, Kan.*
Leroy Francis Childs	*Mill Creek*
Robert Arthur Chreste	*Louisville, Ky.*
Carl John Christian	*Butte, Mont.*
James Lewis Conley	*Golconda, Ill.*
Robert Hinckley Cook	*Saginaw*
Carl Andrew Cooley	*Detroit*
Willard Moore Cornelius	*Adrian*
Rex Platt Cornelison, LL.B., *Central University of Kentucky*	*Owingsville, Ky.*
Loren Oldham Crenshaw	*Los Angeles, Cal.*
Joseph Henry Cruthis	*Springfield, Ill.*
James Patrick Cudihy	*Grand Rapids*
Southard John Cutting	*Ann Arbor*
Floyd Eugene Daggett	*Ypsilanti*
John Dahlem	*Jackson*
Julian Klein Davidson, LL.B., *Kansas City College of Law*	*Kansas City, Mo.*
Frederick Charles Day	*Kalamazoo*
Fred Mason DeNeffe	*Spokane, Wash.*
Charles Lemuel Dibble, A.B., *Cornell University*	*Marshall*
John Netherton Dighton, Jr.	*Monticello, Ill.*
Isaac Jay Doke	*Detroit*
Dennis George Donahue	*Hancock*
John Leedham Downing	*Toledo, O.*
Harold Morse Dunphy	*Spokane, Wash.*
Dell Dawes Dutton	*Kansas City, Mo.*
Robert Burton Edmonson, Ph.B., *Des Moines College*	*Knoxville, Ia.*
Donald Gilbert Eggerman, Ph.B., *University of Wooster*	*Shawnee, Okla.*
Roy Alton Elwood	*Export, Pa.*

Frank Whitefield Edwards, Ph.B., *Cornell College*	*Logan, Ia.*
Frank Ertel	*Stewart, Ill.*
Everett Hall Evans	*North Platte, Neb.*
Edward William Fehling	*Minneapolis, Minn.*
Max Finkelstein, A.B.	*Alpena*
Robert John Firman	*Harbor Creek, Pa.*
Eugene John Fischer	*Ann Arbor*
James Michael Fitzgerald, A.B., *Creighton College*	*Omaha, Neb.*
Allen Grant Fletcher	*Santa Fe, New Mex.*
Albert Newton Ford	*Battle Creek*
Charles Henry Francis	*Holmeson, N. J.*
James Serenus Freece	*Ogden, Utah*
Emiliano Alcala Gala, A.B., *San Tomas University*	*Sariaya, Tayabas, P. I.*
Arthur Leopold Generaux	*Ann Arbor*
Harry Oliver Glasser	*Monaca, Pa.*
Ira Garfield Gorham, A.B., *Ohio State University*	*Perrysville, O.*
Augustus Graham	*Des Moines, Ia.*
Albert Gallitan Granger	*Delaware Mine*
Marion Scudder Griffin	*Memphis, Tenn.*
Fenton Earl Grigsby	*Greenville, O.*
George Paul Guffin	*Rushville, Ind.*
Clare Jay Hall	*Port Austin*
Herbert Chester Hall	*Ionia*
Herbert Hellenberg	*Fargo, N. Dak.*
Ernest Milton Halliday, A.B.	*Hudson*
Edward John Hammer	*Hillsboro, Wis.*
William Gilman Hare, B.L., *University of the Pacific*	*Hillsboro, Ore.*
Hubert Ezra Hartman	*Auburn, Ind.*
George Elmer Haskins	*Chicago, Ill.*
Susie Payne Hathaway	*Louisville, Ky.*
Robert Earl Helm	*Toledo, O.*
Guy Trysellin Helvering	*Beattie, Kan.*
Clarence Anthony Henning	*Lead, S. Dak.*
Clark Earl Higbee	*Potterville*
William Benjamin Hinkly	*Luverne, Minn.*
Clement Milton Holderman, A.B.	*North Manchester, Ind.*
Charles Gillette Hubbard	*Kane, Pa.*
David Mansfield Hughes	*Mount Carmel, Pa.*
John Reese Hughes	*Bevier, Mo.*
Paul Richard Hughes	*Lima, O.*
Reuben Gay Hunt, B.L., *University of California*	*Alameda, Cal.*

William Miles Jackson	*Assumption, Ill.*
Nathan Earle Jacobs, LL.B., *Washington University*	*Saint Louis, Mo.*
Charles Henry Jasnowski	*Detroit*
Ralph Edward Jenney, A.B.	*Ann Arbor*
Francis Xavier Joerger	*Hobbs, Ind.*
Claude Watkins Johnson	*Burlington*
Leo Hirsch Jonas	*Centralia, Ill.*
Archibald Dolphus Jones	*Ann Arbor*
Roscoe D. Jones, A.B., *Monmouth College*	*Monmouth, Ill.*
Ralph Odell Kaufman	*Spokane, Wash.*
Patrick Joseph Keenan	*East Chicago, Ind.*
Adelbert Ridgely Keller, A.B., *Heidelberg University*	*Tiffin, O.*
Chester Young Kelly, A.B., *Indiana University*	*Casey, Ill.*
Frederick George Bradstreet Kemp	*Manchester, N. H.*
Edwin James Kenny, A.B.	*Duluth, Minn.*
Harry Milton King	*Augusta, Ill.*
Oscar Albert Knehans, Ph.B., *Central Wesleyan College*	*Warrenton, Mo.*
Frank Delany Koelbel	*Muskegon*
Austin Lloyd Lathers, A.B.	*Ann Arbor*
Michael Joseph Lavoy	*Ann Arbor*
Rollie L. Lewis	*Charlevoix*
Charles Hammond L'Hommedieu, A.B., *Yale University*	*Detroit*
Adelbert B. Lightfoot	*Big Rapids*
Logan Lee Long	*Indiana, Pa.*
Frank Chandler Longman	*Battle Creek*
Anthony Lucas, B.S., *Valparaiso College*	*Calumet*
William Alfred Lucking	*Detroit*
Arthur Eugene Lybolt	*Alma*
Alfred Hoyle McAdoo	*Chicago, Ill.*
John Herbert McClintock	*Marcus, Ia.*
Blaine McCord	*Benton Harbor*
Robert Grosvenor McCreary	*Cleveland, O.*
Ralph Waldo McCrillis	*Denver, Col.*
James Hamilton McEldowney	*Chicago, Ill.*
Maurice Caldwell McGiffin	*Brookville, Pa.*
Joseph Townsend McGrew	*Kansas City, Kan.*
Robert Benjamin McKissick	*Lewiston, Idaho*
Clark Arnold McMillen, B.S., *Cornell College*	*Tampico, Ill.*
Rolla Coral McMillen	*Monticello, Ill.*
Frank Worthington Madison	*Byron, Okla.*
George Arthur Malcom, A.B.	*Concord*
Homer Roubin Mallow	*Union City*

Leedy Markey	*New Carlisle, O.*
Charles Edward Meeker	*Wolverine*
Paul Christian Meyer	*Ann Arbor*
Harry Dorland Michael, A.B., *Earlham College*	*Milton, Ind.*
William Joseph Miller	*Escanaba*
Samuel Alfred Mitchell, A.B., *University of Arkansas*	*Fayetteville, Ark.*
Earl Darius Monroe	*Springfield, Ill.*
Jay Randolph Monroe	*South Haven*
Clark Bradley Montgomery, B.S., *Knox College*	*Wyanet, Ill.*
Herbert Chester Montgomery	*San Jose, Cal.*
Charles Cornell Moore	*Fort Washakie, Wyo.*
George Alfred Morris	*Onaway*
William Gordon Murphey	*Centralia, Ill.*
Alvin Dow Murphy	*Metamora, Ill.*
Daniel Carl Murphy	*Howell, Ind.*
Loren Edgar Murphy	*Cuba, Ill.*
James Henry Mustard	*Midland*
John Mustard	*Midland*
William Mutschler	*Goshen, Ind.*
Edwin E. Myers	*Benton Harbor*
Daniel Forster North	*Homer*
Henry Lawrence Obetz, Jr.	*Detroit*
Michael Arthur O'Donnell	*Belvidere, Ill.*
Casper Abraham Ornbaun	*Ornbaun, Cal.*
George Elmer Osburn	*Terre Haute, Ind.*
John Jenkin Owens, Jr.	*Scranton, Pa.*
Benjamin Stanley Pagel	*Detroit*
Edward Foster Parker, A.B.	*Toledo, O.*
Harry H. Partlow	*Grand Ledge*
John Havens Penniman	*Battle Creek*
Lewis Myrl Phelps	*Kibbie*
George Philip	*Fort Pierre, S. Dak.*
Otto Milton Pierce	*Bay City*
Harry Alonzo Plummer	*Benton Harbor*
Elbert Norris Pusey	*London Grove, Pa.*
Melancthon Defoe Pypes, LL.B., *Kansas City School of Law*	*Kansas City, Mo.*
Arthur Dunning Quaintance	*Golden, Col.*
William Raymond	*Chicago, Ill.*
Thomas Henry Read	*Shenandoah, Ia.*
Harry William Reading	*Flat Rock*
Andrew Graham Reid, Ph.B., *Simpson College*	*Indianola, Ia.*
Emil Jesse Reinger	*Escanaba*
Montgomery Gordon Rice	*Peoria, Ill.*

Magnus George Riebeling	*Ann Arbor*
Burton Clarke Rogers	*Dundee*
John Rudin	*East Townsend, O.*
Walter Hall Russell, A.B., *Dartmouth College*	*Plymouth, N. H.*
Raymond Garfield St. John	*Ann Arbor*
Victor St. Rayner	*Portland, Ore.*
Benjamin Franklin Saltzstein	*Detroit*
George Chandler Scarlett, B.S., *Clark University (Atlanta)*	*Brunswick, Ga.*
Clarence John Schroeder	*Rock Island, Ill.*
Walter Edward Schroeder, A.B.	*Blue Island, Ill.*
Will Harold Scofield	*Colorado Springs, Col.*
Clifford J. Sebring	*Blissfield*
Guy Wesley Selby	*Clio*
Howard Jackson Seymour, A.B.	*Ravenna, O.*
Leo Nelson Sharpe	*West Branch*
Frank Joseph Sheehan	*Shadeland, Pa.*
James Thaddeus Shipman, A.B., *Ouachita College*	*Montrose, Ark.*
Robert Perry Shorts	*Mount Pleasant*
Thomas Allan Sims, A.B.	*Indianapolis, Ind.*
William Albert Slick	*South Bend, Ind.*
Henry Stewart Slyfield	*Detroit*
Somers Hayes Smith	*Adrian*
Charles Edgar Smoyer	*Wadsworth, O.*
George Edward Snell	*Deer Lodge, Mont.*
Frank Leroy Soule	*Hooper, Utah*
James Ezra Spencer	*North Branch*
John Lewis Spengler	*Rochester, Ill.*
Martin Bernard Stadtmiller	*Indiana, Pa.*
Albert William Stenger	*Johnstown, Pa.*
Arthur Julian Stevens	*Bangor*
Charles Shirlburt Stewart	*Port Huron*
George Edward Stockbridge	*Ann Arbor*
Willis Gordon Stoner, A.B.	*Valparaiso, Ind.*
Leon Eugene Stowe	*Howell*
Fred Charles Strain, A.B.	*Ann Arbor*
Montrose Strasburger	*Detroit*
Theodore Mallory Stuart, A.B., *University of Denver*	*Chariton, Ia.*
Roland George Swaffield	*Coldwater*
Alexander Ramsey Thomas	*Salt Lake City, Utah*
Lawrence Beekman Travers	*Fairview, Ill.*
Harry Raymond Trusler	*Tempe, Ariz.*
Leigh Cilley Turner, A.B., *Dartmouth College*	*Cincinnati, O.*
Carl Ultes, Jr., A.B., *Wittenberg College*	*Springfield, O.*

Edson Blaine Valentine	*Benton Harbor*
George Vanderwall	*Haines, Ore.*
Oscar Edward Waer	*Coloma*
Alvin Waggoner	*Gays, Ill.*
Milton Vaughn Ward, B.S., *Central University of Kentucky*	*Greensburg, Ky.*
David Ashley Warner	*Spring Arbor*
Herbert David Warner	*South Bend, Ind.*
Stephen Howard Wattles	*Kalamazoo*
Gay Alfred Webb	*Kalamazoo*
Otto William Wegner	*Riga*
Lester Darwin Welch	*Ann Arbor*
Tom Cornell Whitmore, A.B., *Cornell College*	*Knoxville, Ia.*
Harry Marvin Wier, Jr.	*Cambridge, Ill.*
Roy DeLos Williams	*Washington Court House, O.*
Edmund Alexis Wills, A.B., *St. Joseph's College*	*South Bend, Ind.*
Floyd Jerome Wilson	*Lansing*
William Perry Wilson	*Murphysboro, Ill.*
Christian Alfred Winter	*Carrollton*
Adelbert Jesse Wismer	*Midland*
Dale Witt	*Seattle, Wash.*
Clyde Dale Wolfe, B.S., *Bucknell University*	*Lewisburg, Pa.*
William Scott Wood	*Muskegon*
Henry Woog, A.B.	*Washington, D. C.*
Erastus Dilworth Woolley	*Kanab, Utah*
Edward Frank Wunsch	*Detroit*
William Frederick Wunsch	*Detroit*
Erwin Grover Wurster	*Milwaukee, Wis.*
James Garfield Wyman	*Ann Arbor*
Merle Horace Young	*Paw Paw*

SECOND YEAR STUDENTS

NAME	RESIDENCE
Benjamin Morris Achtenberg	*Saint Joseph, Mo.*
Ralph William Aigler	*Bellevue, O.*
Harry Edwin Allen	*Birmingham*
John Max Allen	*Charlotte*
Verne Clarence Amberson	*Blissfield*
Frank Byron Ansted	*Connersville, Ind.*
Ira Philip Baer	*Huntington, W. Va.*
Robert Shirley Ballard	*Lansing*
William Franklin Barnard	*South Bend, Ind.*
John P. Barnes, B.S., *Geneva College*	*Beaver Falls, Pa.*

Stuart Cornell Barnes	*Ionia*
Robert Duncan Bartlett	*Fairmount, Ind.*
Ernest Hampden Bastian	*Holly*
Charles Stearns Bayley	*Fergus Falls, Minn.*
Lucius Albon Beadles	*Quincy, Ill.*
Charles Bernard Belknap	*Ann Arbor*
William Joseph Belknap	*Ann Arbor*
Milo Bennett	*Kalamazoo*
Truman Bentley	*Ellsworth*
Sol Bernstein	*Marion, Ind.*
Roy L. Black	*Topeka, Ind.*
Grover Cleveland Borders	*Nashville, Ill.*
Harry Samuel Bowman	*Las Vegas, New Mex.*
Victor Bresler	*Detroit*
Charles Alexander Brinkley	*Linneus, Mo.*
Albert Ernest Bullock	*Muskegon*
Archibald Edward Carey, A.B.	*Eastlake*
Ivan Edgar Chapman, A.B.	*Ypsilanti*
Guy Cunningham Christy	*Ford City, Pa.*
Grover Cleveland Cisel	*Allendale, Ill.*
Leslie B. Clark	*Galien*
Jarrett Nathaniel Clark	*Glenn*
William Bernard Clark, B.L., *University of Wisconsin*	*Belleville, Wis.*
Lucian John Clarke	*Santa Monica, Cal.*
Edward Louis Cleary	*Clyde, N. Y.*
William Clark Cochrane, A.B.	*Saint Joseph*
Charles Herman Combs	*Freeport*
Edmund Joseph Condon	*New London, Conn.*
Henry Conger	*Port Huron*
Henry George Coors, Jr.	*Las Vegas, New Mex.*
Arthur Adams Corcoran	*Saginaw*
Ralph Waldo Core, A.B., *Simpson College*	*Indianola, Ia.*
Harry Corgan	*Ontonagon*
Harry Allen Coryell, Ph.B., *Bucknell University*	*Shamokin Dam, Pa.*
Charles Albert Cox	*Paducah, Ky.*
Ralph Lane Crane	*Saint Louis, Mo.*
Ansel Beecher Curtiss, A.B., *Hiram College*	*Freedom Station, O.*
James Arthur Cutler, A.B.	*Nora Springs, Ia.*
Harry Hector Dale, A.B.	*Butte, Mont.*
Michael Marion Dardas	*Bay City*
James Lucian Davis, A.B., *Central College*	*Fayette, Mo.*
Roy Sprague Davis	*Kansas City, Mo.*
Bartley Campbell Davitt	*Saginaw*
Floyd Anthony Deahl	*Goshen, Ind.*
Ray Deahl	*Goshen, Ind.*

James Alexander Dickson	*Canfield, O.*
Fabian Bouton Dodds, A.B., *g*	*Mount Pleasant*
Frank Langdon Doty, A.B.	*Pontiac*
Ray Lindsay Dowdall	*Carrollton, Ill.*
George Henry Downer	*North Thetford, Vt.*
Sheridan Downey	*Laramie, Wyo.*
Frederick Lincoln Driggs	*New York, N. Y.*
Denny Francis Dunlavy	*Ashtabula, O.*
Melvin Taylor Dunlavy	*Trinidad, Col.*
Howard Adolphus Ellis, A.B., *Olivet College*	*Ionia*
Louis Glenn English	*Clarksville*
Palmer Loren Fales	*Belding*
George A. Farr, Jr.	*Grand Haven*
Thomas Smith Farrell	*Fort Dodge, Ia.*
Claude Chesterfield Fogle, A.B., *University of Missouri*	*Lancaster, Mo.*
Earle Eugene Fogle	*Lancaster, Mo.*
Guy Raymond Forbes	*Grand Rapids*
Lovett Kenzie Fraser	*Lakeport, Cal.*
Marshall Madison Frisbie	*Flint*
Carl Gard Fulton	*Marcellus*
Hubert John Gaffney	*Bay City*
George Gardner, Jr., Ph.B., *Colorado College*	*Colorado Springs, Col.*
Lloyd Franklin Gates	*Garrett, Ind.*
Albert Aloysius Germain	*Saginaw*
Harold Brayton Gilbert, Ph.B., *University of Iowa*	*State Center, Ia.*
Joseph Rogers Gillard, A.B.	*Sandusky, O.*
Harry William Ginty	*Fort Wayne, Ind.*
Lewis Dow Glenn	*Livingston, Mont.*
Charles Henry Goggin	*Alma*
Arthur Kingsley Graves	*Detroit*
Conant Lewis Green	*Attica, Ind.*
Barrett Kerfoot Greenfield	*Pittsburg, Pa.*
Carl James Gugler	*Galion, O.*
Clare McCall Gundry, A.B.	*Grand Blanc*
Louis Martin Hammerschmidt, LL.B., *University of Louisville*	*New Albany, Ind.*
Eugene Teel Hammond, A.B.	*Lansing*
Herbert H. Harrison	*Bad Axe*
Dow Watters Harter	*Akron, O.*
Edward Richard Hastings	*Adrian*
Leslie Oliver Hawkins, A.B., *University of Colorado*	*Huntingdon, Tenn.*
William Edward Hayes	*Clinton, Ia.*
Elmer Henry Heitmann	*Chicago Heights, Ill.*

George Robert Helmer	*Utica, N. Y.*
Gray Herndon	*Rochester, Ill.*
John Pierre Hertert	*Harlan, Ia.*
Sherwin Alonzo Hill	*Detroit*
Burritt Havilah Hinman, B.S., *Dartmouth College*	*North Stratford, N. H.*
Walter Reeve Hobbie	*Kankakee, Ill.*
Alfred Roy Hulbert	*Oak Park, Ill.*
Isaac David Hunt	*Portland, Ore.*
Paul Vincent Hutchins	*Ann Arbor*
Francis Ross Hyland	*Stoughton, Wis.*
Harris Walker Jackson	*Palmer, Tex.*
Arthur Burton Jaquith	*Omaha, Neb.*
Chauncey Hobart Jenkins	*Cuba, Ill.*
Chad Lancelot John	*Uniontown, Pa.*
George William John	*Mount Clemens*
Asa Eli Johnson	*Martinsville, Ill.*
Clark Millard Johnson	*Flint*
Ray Bidwell Johnston	*Detroit*
Buddington Walker Jones	*Novi*
Emlyn Ivor Jones	*Lexington, Ill.*
John Edward Junell	*Ironwood*
Alex W. Jurma	*Laurium*
Albert Henry Keil	*N. Tonawanda, N. Y.*
Raymond Russell Kendrick, A.B.	*Saginaw*
William Birney Kirk	*Lima, O.*
Robert Henry Kirschman	*Muskegon*
Walter Darwin Kline	*Homer*
Louis Edward Kunkel	*Michigan City, Ind.*
Embert Victor Larson, B.S., *Iowa State College*	*Story City, Ia.*
Edwin Daniel Lawlor	*Chicago, Ill.*
Harley Kenneth Legg, *a*	*Colon*
Anson Wade Lewis	*Harlan, Ia.*
John Wesley Lyddick	*Buchanan*
John McClellan, A.B., *Albion College*	*Springport*
Harry Ellsworth McCurry	*Carrick, Pa.*
Joseph Albert McKee, Ph.B., *Iowa College*	*Grinnell, Ia.*
Glenn Peter McKinley	*Wallace, Idaho*
William Gregory McMillan	*Gagetown*
William Wagar Macpherson	*Fowler*
Carl Joseph Maher	*Fort Dodge, Ia.*
James William Maloney	*Butte, Mont.*
Walter Harlem Maloney	*Arcadia, Wis.*
Kirby Russel Martens	*Lancaster, O.*
Carmel Martin	*Carmel, Cal.*
Hugh T. Martin, A.B., *Monmouth College*	*Monmouth, Ill.*

James William Maucker	*Rock Island, Ill.*
Leger James Metzger	*East Toledo, O.*
Walter Metzenbaum	*Cleveland, O.*
Charles Jacob Michelet, A.B.	*Westby, Wis.*
Joseph Ernest Miller	*Rockwood, Pa.*
William Augustus Miller	*Newell, Pa.*
Selick Jerome Mindes	*Newark, N. J.*
Harry Franklin Moore, A.B., *Washington and Jefferson College*	*Washington, Pa.*
William Albert Mulhern	*Grand Rapids*
James Joseph Murphy	*Dowagiac*
George Allen Neeves, Jr.	*Chicago, Ill.*
George Frederick Nicholas	*Colorado City, Col.*
Clay Frick Olmstead	*Ludington*
Junius Voltaire Ohmart	*New York, N. Y.*
Herbert Sidney Orr	*Bay City*
Frank Anton Ortman	*Kankakee, Ill.*
Herbert Adams Otto	*Saginaw*
John Hayes Passmore	*Norwich, O.*
Theodore Bolivar Perry, Jr.	*Albia, Ia.*
Norman Wallace Peters, A.B., *Heidelberg University*	*Tiffin, O.*
Hoyt Garrod Post	*Holland*
Walter Griffith Powell	*California, Pa.*
Arthur Gale Preston	*Saint Joseph*
Harry William Priest	*Francesville, Ind.*
George Scott Pritchard, A.B., *University of Wisconsin*	*Aurora, Ill.*
John Hanrahan Ragan	*Chippewa Falls, Wis.*
Vernon Calvin Randolph	*Chicago, Ill.*
Carlos Andrew Reading	*Flat Rock*
James Howard Ready	*Farmer City, Ill.*
Charles Edward Rebert	*Springfield, O.*
Walter Morris Rheinschild	*Los Angeles, Cal.*
Henry Richard Roach	*Lansing*
Samuel Henry Roberts, A.B.	*Ann Arbor*
Joseph Joel Robinson	*Escanaba*
Carl Alexander Rood	*Sinclairville, N. Y.*
Gustave William Rosenberg, A.B.	*Cleveland, O.*
Stanley Meinrath Rosewater	*Omaha, Neb.*
Robert Bruce Rose	*Endicott, N. Y.*
Prince Albert Sample	*Milwaukee, Wis.*
Frank Eugene Sanger	*Paw Paw*
Homer Herman Schneider	*Chicago, Ill.*
Thomas Harlowe Scott	*Freeman, W. Va.*
Elmer Spessard Shank, A.B.	*Mount Morris, Ill.*
Philip Paul Sharkey	*Johnstown, Pa.*
Roland Mark Shivel	*Jones*

David Harper Sibbett	*Shippensburg, Pa.*
Thomas Harry Slusser, A.B.	*Downers Grove, Ill.*
Raymond Cornell Sly	*Roscommon*
Ernest Chandler Smith	*Ann Arbor*
Roy John Solfisburg	*Aurora, Ill.*
Hugo Sonnenschein, A.B.	*Chicago, Ill.*
Ross Charles Sprague	*South Lyon*
William Flurry Stafford	*Georgetown, Ky.*
Charles James Starkey, Jr.	*Ashtabula, O.*
Guy Wakeman Stark	*Rose City*
David Stonecipher, A.B., *Washington and Jefferson College*	*Clinton, Pa.*
James Sanson Strickler	*Pittsburg, Pa.*
Ralph Morse Tate	*Ann Arbor*
George Emory Thurber	*Providence, R. I.*
Warren Hamlyn Townsend	*Hamilton, O.*
Carl Frederick Truitt	*Findlay, Ill.*
William Joseph Truscott	*Miles City, Mont.*
Will James Uber, A.B., *Grove City College*	*Grove City, Pa.*
Geddes Van Brunt	*Saginaw*
Albert Douglass Walton	*Dundee, N. Y.*
Fred Lee Warner	*Penn Yan, N. Y.*
James Cornelius Warren	*Holyoke, Mass.*
Joseph Jerome Weadock	*Saginaw*
Samuel Pool Weaver, A.B., *Pennsylvania College*	*Greensburg, Pa.*
Carl Nogle Weilepp	*Cisco, Ill.*
Nicodemus Wernette	*Remus*
Arthur Stevenson White, Ph.B., *Grove City College*	*Grove City, Pa.*
Raynale Almeron Whitehead	*Birmingham*
Justin Rice Whiting	*Saint Clair*
Edward Peter Whitney	*Onondaga*
John Carlyle Wilkes	*Sharon, Pa.*
Alexander Wiley, Jr.	*Chippewa Falls, Wis.*
Thomas Victor Williams, A.B.	*Marquette*
Garland Wilson, A.B., *University of Missouri*	*Bethany, Mo.*
John Sherman Wilson	*Springfield, Ill.*
Justice Wilson, A.B., *Yale University*	*Toledo, O.*
Frank Douglass Winn, Ph.B., *Iowa College*	*Newton, Ia.*
Roy Alva Winslow	*Kalamazoo*
Howard Francis Withey	*Reed City*
Thomas Wood, A.B., *Bucknell University*	*Muncy, Pa.*
Wilbur Blackman Worthington	*Steubenville, O.*
Nathaniel Worthy	*Grafton, Ill.*
Edward Earl Wright	*Sullivan, Ill.*

FIRST YEAR STUDENTS

NAME	RESIDENCE
Leland Justus Allen	*Garden City, Kan.*
Carl Elbridge Anderson	*Ishpeming*
Nelson Reed Anderson, *a*	*Portsmouth, O.*
Ora William Anderson	*Mount Ayr, Ia.*
William Boden Anscomb, *a*	*Detroit*
Wilbur Cooper Bacon	*Chicago, Ill.*
Earl A. Bagby	*Visalia, Cal.*
Willard Titus Barbour, A.B.	*Ypsilanti*
Olece Barkume	*Detroit*
Orlando Mack Barnes, *a*	*Lansing*
Paul T. Barnes, A.B., *Geneva College*	*Beaver Falls, Pa.*
Willard Ray Barnes	*Ithaca*
Ross Jervis Barrett	*Fostoria, O.*
Norman Brace Bartlett, A.B., *University of South Dakota*	*Huron, S. Dak.*
Frank Lorin Bates, B.S., *Kansas State Agricultural College*	*Manhattan, Kan.*
Edward James Beard, Jr.	*Kansas City, Mo.*
Stanislaus Daniel Bell	*Shamokin, Pa.*
Earl Wesley Benson	*Malta, Ill.*
Joseph Morton Bernstein	*Cleveland, O.*
Thomas Vincent Bird	*Missouri Valley, Ia.*
Clarence J. Blinn	*New Brighton, Pa.*
Henry Jay Bohn	*Limeridge, Wis.*
John Arthur Boice	*Lansing*
Hugh Miller Bole, Ph.B., *Adrian College*	*Bellevue, Pa.*
Albert Maria Bonelli, A.B., *Bishop's College*	*Vicksburg, Miss.*
Oscar Leslie Boose	*Somerset, Pa.*
Henry Isaiah Bourns	*Cadmus*
Anthony Frank Brackett	*Norway*
Alfred William Brandt	*Indianapolis, Ind.*
Fred Arthur Bready	*Niles*
Page Morse Brereton	*Denver, Col.*
Matthew Richardson Bright	*Ishpeming*
George Washington Britton	*Conneaut, O.*
Charles Brome	*Omaha, Neb.*
Hiram Erastus Brown	*Crofton, Ky.*
Harold Watkins Brown	*South Haven*
Leroy Otis Buntain	*Scottland, Ill.*
Earl Leon Burhans	*Paw Paw*
Miles Grover Burns	*Paducah, Ky.*
Ben Burr	*Saint Louis*
Mallory Lewin Burroughs, A.B., *St. John's College*	*Edwardsville, Ill.*

Roscoe Schofield Burton	*Peoria, Ill.*
Jared Lester Busby	*Warren, Mass.*
Guy Frederick Bush, *a*	*Hudson*
Isaac Lawrence Butterfield, *a*	*Grand Rapids*
Kennette James Byrne	*Kansas City, Mo.*
George Alexander Campbell	*Alpena*
John William Carey	*Chicago, Ill.*
Arthur John Carlson	*New Castle, Wyo.*
Charles Edgar Carpenter	*Sullivan, Ill.*
LeRoy Edgar Carpenter	*Dundee, N. Y.*
Lee William Carrier	*Three Oaks*
James Burr Cavell	*Ann Arbor*
A. Emon Chaloupka	*Charlevoix*
Harry Leon Chambers	*Lowell*
Charles Sumner Clancy	*Indianapolis, Ind.*
Harlow Alden Clark, A.B., *Oberlin College*	*Marquette*
Ned Renfrew Clark	*Kansas City, Mo.*
David Dabney Cline, A.B., *University of Kentucky*	*North Middleton, Ky.*
Carey Judson Cole	*Mattawan*
Albert Ralph Colgrove, *a*	*Minneapolis, Minn.*
Hiram Fred Collins	*Grand Rapids*
Albert Irving Conlisk	*Monroe*
Albert Lea Corrigan	*Saginaw*
Harry Everard Coughlin, *a*	*Big Rapids*
Robert Edmund Cowden	*Dayton, O.*
John Edmund Crahen	*Grand Rapids*
Paul Scott Crampton	*Saint Clair*
Joseph Irving Davidson	*Pittsburg, Pa.*
Leroy Earl Davidson, *a*	*Brocton, N. Y.*
Jaime Sifre Davila	*San Juan, Porto Rico*
Harry De Laney, Jr.	*New York, N. Y.*
Roy B. Des Ermia	*Onsted*
Alfred Liebert Devos	*Milwaukee, Wis.*
Clyde Alton DeWitt	*Ann Arbor*
Clarence Washington Diver, A.B., *Lake Forest University*	*Waukegan, Ill.*
Dale Mitchell Dobbins	*Marshall*
Thomas Jefferson Downen, Jr., *a*	*Pueblo, Col.*
Stephen Wheeler Downey	*Laramie, Wyo.*
Robert Morrison Drysdale, *a*	*Denver, Col.*
John Garfield Duke	*Edmore*
Norman William Dunan	*Saint Marys, O.*
†Julius Sherwood Dunham, *a*	*Brocton, N. Y.*
Edgar Noble Durfee, A.B., *Harvard University*	*Detroit*
John Maurice Earle	*Belding*
Herbert Lincoln Easley	*Springfield, Ill.*

Ralph Herbert Ellison	*Kalamazoo*
Joseph Cutler Elwell	*Pueblo, Col.*
Maxwell Vernon Emerman	*Cleveland, O.*
Willis Albert Estrich	*Edon, O.*
Jacob Frank Fahrner	*Chelsea*
George Aloysius Feeny	*Wheeling, W. Va.*
Milton Arnold Feltenstein	*Chicago, Ill.*
Chester Arthur Ferris	*Detroit*
John Elgin Fetzer, *a*	*Denver, Col.*
Guy Bernard Findley	*Saint Johns*
Roy Edwin Finerty	*Oklahoma, Okla.*
James Flynn, Jr.	*Sandusky, O.*
Edward Thomas Foote	*Hartford, Wis.*
Dewey M. Forshee	*Ann Arbor*
Frank Boughton Fox, A.B., *Princeton University*	*Washington, D. C.*
Arthur Fist Friedman	*Denver, Col.*
Earle Wright Gardner	*Harbor Springs*
Truman Herschel Gass, *a*	*Washington*
Israel Lewis Giffen	*Pittsburg, Pa.*
Claude Erle Gillis	*Yreka, Cal.*
Max Monroe Gilman	*Mount Clemens*
William Gillette Glaspie	*Oxford*
Philip Train Gleason, A.B., *Brown University*	*Lonsdale, R. I.*
Joseph Goldman	*Saint Joseph, Mo.*
Thomas Gould, Jr.	*Ventura, Cal.*
James Patrick Graham	*Illiopolis, Ill.*
Ward Clemens Greenawalt	*Jeannette, Pa.*
Jonah Lyman Griffith	*Woodburn, Ind.*
Hugh William Grove, A.B., *Valparaiso College*	*Greenspring, O.*
Gerald Freeland Hammond	*Conneaut, O.*
Harold Webb Hanlon, *a*	*Williamston*
Henry Phillip Hellmuth	*Bay City*
Frank Pritchard Helsell, *a*	*Odebolt, Ia.*
Harold Jesse Hellyer	*Riverside, Ill.*
Benjamin William Henderson, A.B., *Oberlin College*	*Jefferson, O.*
Burns Henry, A.B., *Yale University*	*Detroit*
Thomas Benton Hepler, Ph.B., *Grove City College*	*Sarversville, Pa.*
Charles Franklin Hesselbine	*Denver, Col.*
Paul Judson Hewitt, *a*	*Grand Rapids*
James Monroe Hill	*Marshall, Ind.*
Arthur John Hillman	*Niles*
William Gage Hoag, *a*	*Indianapolis, Ind.*
John Clarence Hoffman	*Fort Wayne, Ind.*
Chester Gardner Holdridge	*Evart*

George Harold Hollenbeck	*Council Bluffs, Ia.*
Samuel Spelman Holmes	*Kenton, O.*
Leon Edgar Horwitt	*Denver, Col.*
John Chambers Howell	*Ann Arbor*
Birney Grant Hoyt	*Grand Haven*
William Oscar Hudson	*Dayton, Tenn.*
Lawrence Cameron Hull, Jr., A.B.	*Orchard Lake*
Oramel Blackstone Irwin, B.S., *Sangamon College*	*Pleasant Plains, Ill.*
George Herbert Jackson	*Boyne*
William Bruce James	*Lake Ann*
Walter P. Jensen	*Rolfe, Ia.*
Harry Frank Johnson	*Alto*
Clyde Noah Johnston	*Fostoria, O.*
William Edgar Jolliffe	*Plymouth*
Harry Alba Jones	*Milford, Ill.*
Paul Jones	*Dayton, O.*
Walter De Koven Jones	*Indianapolis, Ind.*
Louis Josiah Kamons	*Pittsburg, Pa.*
Joseph Ensley Kearns	*Dayton, O.*
Francis Bishop Keeney, *a*	*Ann Arbor*
William Dunbar Keeton	*Florence, Wis.*
George Arthur Kelly	*Ottawa, Ill.*
Phineas Arthur Kemp	*Manchester, N. H.*
Dudley Reid Kennedy	*Youngstown, O.*
Joseph Stanley Kent, *a*	*Saginaw*
Charles Ferdinand Kerrigan, A.B., *Yale University*	*Brooklyn, N. Y.*
Charles Savoy King	*Ypsilanti*
Landon Main Kitzmiller	*Greenville*
Leo Solomon Kositchek	*Lansing*
Julian Henry Krolik, *a*	*Detroit*
Ralph Levi Kryder	*Akron, O.*
Dorr Kuizema	*Grand Rapids*
Harry Aloysius La Berge	*East Tawas*
Loren Mont Lepper	*Kendallville, Ind.*
Benjamin Morris Levine	*Champion*
Arthur Wynne Lewis	*Detroit*
Frank Alvin Lewis	*Northville*
Irvin Westhafer Long, *a*	*Monroe*
Irvin Charles Louis	*Chicago, Ill.*
Andrew Stanford Lyon	*Kansas City, Mo.*
Arthur Sedgewick Lytton	*Saint Louis, Mo.*
Lee Alexander McCracken	*Oil City, Pa.*
J. Clair McFellin	*Gobleville*
Walter Hutchinson McKillip	*Chicago, Ill.*
†Henry Westerman McKisson, *e*	*Toledo, O.*
Albert Parris McLain	*Canon City, Col.*
Wayne Alger McLaughlin	*Vernon*

Thomas Flynn McNally	*Mackinac Island*
John Hewitt McPherson	*Grand Rapids*
Francis Bernard Mahony	*Milford*
Charles Leland Mann	*Onsted*
Ray Melville Mann	*Adrian*
Walter Charles Mardorf	*Dayton, O.*
John Arthur Marley	*Clarinda, Ia.*
Robert William Marriott	*Austin, Ill.*
Charles Albert Marsch	*Calumet*
Benjamin Franklin Marsh	*Warsaw, Ill.*
Eugene Perry Martin, *a*	*Blue Island, Ill.*
Pius Ignatius Mattingly	*Nashport, O.*
Harold Guffin Mauzy	*Indianapolis, Ind.*
Charles Merryweather	*Los Angeles, Cal.*
Arthur Rudolph Meyer	*Chicago, Ill.*
Thomas LeRoy Milburn, *a*	*Niles*
Earl Watson Miller	*Ambia, Ind.*
Isaac Nelson Miller	*New Carlisle, Ind.*
Leon Floyd Miner	*Owosso*
Benjamin Smith Montague	*Traverse City*
George Edmond Montgomery	*Boone, Ia.*
Ross Friedly Moore	*Terre Haute, Ind.*
Riley Earl Morgan, A.B., *Southwestern College*	*Winfield, Kan.*
William John Morgan	*Clark's Mills, Wis.*
Abe Lee Morgenroth	*Bellefontaine, O.*
Arthur MacRae Morrison	*Wayne*
Roscoe Conklin Morrison, *a*	*Elkhart, Ind.*
Carl Floy Morrow	*Versailles, Ind.*
Fred Danks Munson	*Connellsville, Pa.*
Clarence Darrell Murphy	*Cuba, Ill.*
Hugh Murphy, Jr.	*Rolla, Mo.*
George Edgar Naylon	*Detroit*
Coleman Cheney Nelson	*Logansport, Ind.*
Fred Bigelow Newton	*Sault Ste. Marie*
Carl Van Nipp	*Rushville, Ind.*
Elliott Slocum Nichols	*Trenton*
Victor Orson Nichoson	*Luther*
Elmer Wagner Nittinger	*Philadelphia, Pa.*
Robert Dickey Noel	*Ligonier, Pa.*
Julius John Ochs	*Davenport, Ia.*
Floyd Olds	*Mount Gilead, O.*
Alfred John Oppliger, *a*	*Rome, O.*
Leslie Henderson Orear	*Kansas City, Mo.*
Walter Montgomery Ostrander	*Niles*
John Richard Oughton	*Dwight, Ill.*
George Franklin Owens	*Bedford, Ind.*
William Henry Parker, A.B., *Lincoln University*	*Augusta, Ga.*

Franklin Crocker Parks, *a*	*Oil Springs, Ont.*
Peter Fraser Paterson	*Flint*
Alfred Ray Patton	*Clarence, Ill.*
Arthur William Penny	*Pierson*
Orie Leon Phillips	*Viola, Ill.*
S. Linn Phillips	*Brownsville, Pa.*
Libbeus Aron Pindall	*Dumas, Ark.*
Roy Edward Pingree	*Detroit*
Clyde Hurlburt Pinney	*Ithaca*
Edward Peter Pree	*Milwaukee, Wis.*
Loomis King Preston	*Saint Joseph*
Carl Horace Ramsdell	*Manistee*
William King Reath	*Vulcan*
Henry Louis Rebbe	*Spearfish, S. Dak.*
Charles Clifford Reed	*Ligonier, Pa.*
Thomas Dana Reed	*Gridley, Cal.*
Wayne Remington Rice	*Grand Rapids*
Claude Cecil Ritze	*Capac*
Charles Loring Roberts	*Eureka, Cal.*
Perry Shepherd Roberts	*Indianapolis, Ind.*
Roy Rudolph Rodemich	*Toledo, O.*
Clifford Dudley Rood	*Brocton, N. Y.*
James Gordon Roper	*Mishawaka, Ind.*
Joseph Daniel Ross	*Ann Arbor*
Isaac R. Rubin	*Kansas City, Mo.*
Charles Augustus Ruby	*Gladstone, Col.*
Thomas Ryan, Jr.	*Stanton, Wis.*
Claude Douglas St. Morris	*Mexico City, Mex.*
Joseph Sanford	*Cleveland, O.*
Clinton Henry Sayles	*Ann Arbor*
Milne Parker Schermerhorn	*Cortland, N. Y.*
Arthur John Scully	*Dunkirk, N. Y.*
Harry Seaton	*Martinsville, Ill.*
Howard Hoagland Servis	*Chicago, Ill.*
Clyde Shallenberger	*Braddock, Pa.*
Thomas Shean	*Hogansburg, N. Y.*
Charles Sumner Shelly	*Toledo, O.*
John Carlos Shields	*Hancock*
Laurence Hetfield Sheetz	*Sterling, Ill.*
Charles Andrew Shierson	*Adrian*
Keith Stith Simpson	*Carrollton, Ill.*
George Douglas Sinclair	*Grand Rapids*
Clement Eyer Smoot, *a*	*Highland Park, Ill.*
Walrond Carter Snell	*Miles City, Mont.*
Edwin Sobel	*Manitowoc, Wis.*
Frederick Charles Solms, *a*	*Saginaw, West Side*
William Henry Soper	*Corunna*
Carl Herbon Spaanum	*Nora Springs, Ia.*
Mortimer Weston Spaulding	*Carroll, Ia.*

Samuel Spitzer	*Chicago, Ill.*
Thomas Wright Spofford	*North East, Pa.*
Ira C. Sprague	*Osborn*
Frederic Grant Stanley	*Kalamazoo*
Oliver Starr, A.B., *Indiana University*	*Poneto, Ind.*
Charles A. Steele	*Tulsa, Ind. Ter.*
Harry Clifford Stevenson, *a*	*Kalamazoo*
Clifford Albert Stewart, *a*	*Hillsdale*
Lewis Finlay Stout	*Saint Mary's, O.*
Charles Vivian McFadden Stuckey	*Mechanicsburg, O.*
William Terry Sunley, Jr.	*Detroit*
John Walter Symons, Jr.	*Saginaw*
Charles Homer Talbot	*Benton Harbor*
William Henry Toellen	*Peru, Ill.*
Walter Lincoln Tooze, Jr.	*Woodburn, Ore.*
William Edward Tracy	*Two Harbors, Minn.*
DeHull Travis	*Ann Arbor*
Richard Hayman Tremper, *a*	*Portsmouth, O.*
Maurice Emmett Tripp	*Pittsford*
Albert Truscott	*Miles City, Mont.*
Raymond Turner	*Vulcan*
John Stanley Tyrrell	*Escanaba*
Marshall Mortimer Uhl, *a*	*Grand Rapids*
Henry Cruger Van Schaack	*Chicago, Ill.*
Arthur Harry Voss	*Cincinnati, O.*
Clare Casper Wagner	*Plainwell*
John Addington Wagner	*Battle Creek*
James John Walsh	*Waterloo, N. Y.*
William Robert Walsh	*Port Huron*
Michael Thomas Ward	*Harvard*
Lucius Elnathan Warren	*Corunna*
Edward James Waters	*Jackson, Neb.*
Ernest D. Weller, Ph.B., *Iowa Wesleyan University*	*New London, Ia.*
Joseph Sylvester Wenger	*Russell, Kan.*
LeRoy Williams Westcott	*Hartford*
Samuel J. Wettrick, B.S., *Valparaiso College*	*Port Huron*
Enoch Thomas White, *a*	*Lapeer*
†John Taylor Whitehead, *e*	*Chicago, Ill.*
Joseph Edgar Williams	*Terre Haute, Ind.*
Eldrich Joshua Willis	*Ossining, N. Y.*
Lee George Wilson	*Crystal Falls*
Clarence Fenton Wilt	*Pittsburg, Pa.*
Warren Wesley Winkler	*Saginaw*
John Elmer Winner	*Perrysville, Pa.*
Thomas B. Winter, Jr.	*Greenville*
Frederick Thomas Witmire	*Ypsilanti*

George McKinley Wolf	*Three Rivers*
Moses E. Wolf, *a*	*Cincinnati, O.*
Louis Arthur Wolinsky	*Canton, O.*
Percy Addison Wood	*Sacramento, Cal.*
John Franklin Woodard	*Kalamazoo*
Ralph Whallon Woodbury	*Chicago, Ill.*
Thomas Hyman Wren	*La Crosse, Ark.*
Charles Wright, A.B., *Yale University*	*Detroit*
Murray S. Wright	*Fergus Falls, Minn.*
George Laucks Xanders	*Broken Bow, Neb.*
Harry Abner Yates	*Springfield, Ill.*
John Sandy Young	*Roachdale, Ind.*
Robert George Young	*Toledo, O.*

SPECIAL STUDENTS

NAME	RESIDENCE
Eugene G. Ackerman	*Martinsville, N. Y.*
Philip Randolph Anderson	*Sharon Springs, Kan.*
George Arnott, Jr.	*Tarkio, Mo.*
James Worth Benedict	*Port Huron*
James Garfield Berkey, Ph.B., *Hiram College*	*Salem, Ind.*
Charles Frank Bolin	*Brainerd, Minn.*
Joseph Francis Bowler	*Clare*
Herman Frederick Brede	*Detroit*
Leonard Camfield Brown	*Niles*
Roy Edmund Brownell	*Oxford*
Andrew Faulk Burleigh, Jr.	*New York, N. Y.*
Charles Blanchard Carter	*Auburn, Me.*
Robert Graves Chapman	*San Antonio, Tex.*
Roy Vallette Coffey	*Monroe*
William Gaylord Coleman	*Walla Walla, Wash.*
John Reagan Connell	*Mount Carroll, Ill.*
Philip Stephen Connelly	*West Duluth, Minn.*
Peter Albert Deisch	*Helena, Ark.*
Orville P. DeWitt, A.B., *Lebanon Valley College*, A.M., *ibid*	*Ann Arbor*
Harry Edwin Dickerman	*Westfield, N. Y.*
John Frank Filut	*Milwaukee, Wis.*
William Charles Grace	*Ann Arbor*
John Lyman Gray	*Fort Dodge, Ia.*
Harry Wilton Guipe, LL.B., *University of Wisconsin*	*Chicago, Ill.*
Anthony Clark Hageman	*Chicago, Ill.*
Charles Cambell Hall	*Boswell, Ind.*
Thomas Stevens Hammond	*Chicago, Ill.*
George Bennett Hancock	*Panguitch, Utah*

William Wayne Hancock	*Monessen, Pa.*
Frederick James Harris	*Iron Mountain*
Robert Harvey Harris	*Morning Sun, Ia.*
Senichiro Horiye	*Tokio, Japan*
George Charles Howard	*Churchville, N. Y.*
Gustave Arnt Iverson	*Manti, Utah*
Thomas Hayes Kearney	*Ann Arbor*
Harold Mansell Koelbel	*Muskegon*
John Jacob Koski	*Conneaut, O.*
Allen Westcott Langmade	*Delevan, N. Y.*
Beryl Benjamin Laska	*Denver, Col.*
Christian Henry Lehman	*Ann Arbor*
Frederic Keith Lewis	*Watseka, Ill.*
Milton Bear Loeb	*Lafayette, Ind.*
Charles Abner MacArthur	*Troy, N. Y.*
Frederick Barnett McConnell	*Osborne, O.*
Frederick Harold McKinney	*Ann Arbor*
Leo Angus McMillan	*Gagetown*
Arthur Cooper Marriott, LL.B.	*Chicago, Ill.*
Thomas Almor Mead	*Ann Arbor*
John Wesley Mitchell	*Harbor Springs*
Robert Wakefield Morrison, Jr.	*Saint Louis, Mo.*
John Brainard Orton	*Grand Rapids*
Elmer Harry Phelps	*Carson City*
James Hull Quinn	*Indianapolis, Ind.*
George Henry Ross	*Calgary, Alberta*
Clinton Robert Saltsgiver	*Mishawaka, Ind.*
Harrison Standish Smalley, Ph.D.	*Ann Arbor*
Lewis Carney Smith	*Howard, Kan.*
Earl Kent Solether	*Jersey City, O.*
Karl Edmund Steinhauer	*Denver, Col.*
Arthur August Swartz	*Dunbridge, O.*
Carlyle Thomas Travis	*Detroit*
Federico Miguel Unson	*Lucena, Tayabas, P. I.*
William Curtis Vaughn	*Jacksonville, Fla.*
Walter Harry Wayland	*Girard, Kan.*
Charles Frederick Werner	*Eau Claire, Wis.*

The students named below, enrolled in the Department of Literature, Science, and the Arts, also pursue studies in the Department of Law, though not registered in the combined course.

NAME	RESIDENCE
Arthur Adolph Basse, LL.B.	*Chicago, Ill.*
Harold Anson McNitt	*Ravenna*
Louis Bolduc Montford	*Benton Harbor*
John Joseph Neary	*Medina, N. Y.*
Frank Jay Phillips, A.B.	*Grand Rapids*
Mallory Napoleon Stickney, A.B.	*Lapeer*

School of Pharmacy

FACULTY

JAMES B. ANGELL, LL.D., *President*
OTIS C. JOHNSON, Ph.C., A.M.
EDWARD D. CAMPBELL, B.S.
MOSES GOMBERG, Sc.D.
JULIUS O. SCHLOTTERBECK, Ph.D., Ph.C., *Dean*
S. LAWRENCE BIGELOW, Ph.D.
ALVISO B. STEVENS, Ph.C., *Secretary*
EDWARD H. KRAUS, Ph.D.
DAVID M. LICHTY, M.S.
WILLIAM J. HALE, Ph.D.
CHARLES W. EDMUNDS, A.B., M.D.
RUBEN W. BALCOM, Ph.D.
KARL W. ZIMMERSCHIED, A.B., M.S.
LEE H. CONE, Ph.D.

Other Instructors and Assistants

HOBART H. WILLARD, A.B.
ADOLPH ZIEFLE, Ph.C.
CARLOS P. LONG, A.B.
OSCAR H. WURSTER, A.B.
WILLIAM W. HALE, M.D.

STUDENTS†

RESIDENT GRADUATES

NAME	DEGREE	CREDIT	RESIDENCE
Casriel Fishman, Ph.C., 1902, *m*	B.S.	118	*Grand Rapids*
Ralph Anton Helmer, Ph.C., 1905, *m*	B.S.	69	*Paxton, Ill.*
Augustus Joseph O'Brien, Ph.C., 1900, *m*	B.S.	69	*Bessemer*

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†The abbreviations in the column headed Degree indicate the degree for which the student is studying. Where no abbreviation is given, the student is pursuing miscellaneous studies without being registered as a candidate for a degree. The figures in the column headed Credit indicate the number of hours of work taken prior to the beginning of the current

Lewis Eugene Warren, Ph.C., 1903	B.S.	78	*Hillsdale*
Joseph Mose Wolff, Ph.C., 1905	B.S.	69	*Otsego*
Adolph Ziefle, Ph.C., 1904	B.S.	98	*Ann Arbor*

UNDERGRADUATES

NAME	DEGREE	CREDIT	RESIDENCE
†James Frederick Allen, *p*	Ph.C.		*Marysville*
Albert Jay Bacon	B.S.	91	*Ladd, Ark.*
Frank Dymond Baker	Ph.C.	16	*Flint*
Charles August Behrens	Ph.C.		*Grand Rapids*
†Senekerim M. Bishop, A.B., *Anatolia College, d*			*New York, N. Y.*
Louis Boelio		14	*Petoskey*
James Ten Broeck Bowles	B.S.	60	*Paris, Ill.*
Harry Ferguson Bowman	Ph.C.		*Almont*
Neil Thompson Chamberlin	B.S.	69	*Armada*
Singleton Porter Cole		13	*Detroit*
Pearl Decker	Ph.C.		*Alma*
Arthur Ernest De Clercq			*Detroit*
John Francis Dold	Ph.C.		*Newark, O.*
Leonard Clement Donohue	Ph.C.		*Holyoke, Mass.*
Stephen Hoyt Dunwell	Ph.C.		*Plainwell*
George J. Elliott	Ph.C.		*Kalamazoo*
Jasper Alvester Fenner	Ph.C.	23	*Coldwater*
William Francis Gidley	B.S.	31	*Holly*
Clarence Friend Gill	Ph.C.	33	*Ishpeming*
Fred Warren Gordon	B.S.	94	*Howell*
Miles J. Hall		12	*Hastings*
Leo Hadley Harrison	Ph.C.		*Athens*
†John William Harsha, *a*			*Charlevoix*
Barton LeRoy Hauck	Ph.C.		*Columbus Grove, O.*
Charles Anton Hauser	B.S.	31	*Covington, Ky.*
Joseph John Healy	Ph.C.		*Richmond, Quebec*
Robert Adolphus Holbrook	B.S.	93	*Ann Arbor*
Frank J. Jones	Ph.C.	25	*Hastings*
Ezra Joseph Kennedy, Jr.	B.S.		*Rutherford, N. J.*
Thomas Joseph Kirwin	Ph.C.		*Scranton, Pa.*
Frederick William Knight	Ph.C.		*Bessemer*

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academic year, 1905-1906, and completed without conditions, or credited on advanced standing. By an hour of work is meant the equivalent of one exercise a week for one semester. A dagger (†) preceding a student's name signifies that he has pursued studies, for the whole or a part of the year, in another department of the University, indicated by an italic letter following the name, to-wit: *a*, Department of Literature, Science, and the Arts; *e*, Department of Engineering; *m*, Department of Medicine and Surgery; *l*, Department of Law; *h*, Homœopathic Medical College; *d*, College of Dental Surgery.

Leopold Herman Lau	Ph.C.		*Ann Arbor*
Pedro Evangelista Llamas	Ph.C.		*Pagsanghan, Laguna, P. I.*
James Harry McCormick	Ph.C.	17	*Kalamazoo*
Otto C. McCreary	B.S.	77	*Fishertown, Pa.*
Elva Beardsley McNeil	Ph.C.		*Ann Arbor*
Arthur Meier	Ph.C.		*Whittaker*
George Victor Metzger, A.B., *St. Johns College*	B.S.	60	*Toledo, O.*
Modeste Andrew Metzger	Ph.C.		*Toledo, O.*
George Bader Morris	Ph.C.	42	*Detroit*
Donald Oliver Noble	Ph.C.		*Michigan City, Ind.*
Jess Blain Oates			*Kenton, O.*
Henry Philo Palen	Ph.C.		*Holt*
Walter Lorren Pippin	Ph.C.		*Stuart, Ia.*
Ira Herbert Potter	Ph.C.		*Massena, N. Y.*
Joseph B. Price			*Springfield, Ill.*
Clarence Frederick Ramsay	Ph.C.		*Detroit*
Mark Howard Reasoner	B.S.	42	*Peru, Ind.*
John Benjamin Rieger	B.S.	64	*Reading, Pa.*
Howard Brackney Ripley	Ph.C.		*Montague*
Tod Baldwin Roll	Ph.C.	15	*Hamilton, O.*
Gustavo Ernesto Saliva	Ph.C.		*Mayagüez, Porto Rico*
Frank Spencer Schanher	Ph.C.	25	*Mount Clemens*
Paul Welstead Schanher	Ph.C.	33	*Mount Clemens*
Emil Schragenheim	B.S.		*Toledo, O.*
Fern L. Shannon	Ph.C.		*Camden*
Howard Morton Skeels	Ph.C.		*Proctor, Vt.*
James Hungerford Smith	B.S.	25	*Rochester, N. Y.*
Fred Hartmann Stegath	Ph.C.		*Escanaba*
Charles Howard Stocking	B.S.		*Ann Arbor*
Remy Ernest Stoffel	Ph.C.		*Saint Louis, Mo.*
William Frederick Sudro	B.S.	91	*Elyria, O.*
Lyman H. Taft		28	*Lowell*
Norman Irving Taylor	B.S.		*Detroit*
Clark William Thomas			*Port Huron*
Hervey Bristow Troxler	B.S.		*Louisville, Ky.*
George Barber Wicker	Ph.C.		*Coldwater*
Charles Louis Williams	Ph.C.		*Detroit*
Everrett Paul Williams	Ph.C.		*Bangor*
Joseph Alexander Wolf	Ph.C.		*Quincy, Ill.*
Gerald Ball Wood	B.S.		*Bradford, Pa.*
Paul Harry Wright	Ph.C.		*Elk Rapids*

Homœopathic Medical College

FACULTY

JAMES B. ANGELL, LL.D., *President*
WILBERT B. HINSDALE, M.S., A.M., *Dean*
ROYAL S. COPELAND, M.D., A.M., *Secretary*
WILLIS A. DEWEY, M.D.
CLAUDIUS B. KINYON, M.D.
DEAN T. SMITH, B.S., M.D.
FREDERICK L. DUNLAP, Sc.D.
CLAUDE A. BURRETT, Ph.B., M.D.

Assistant

LEON J. GIBSON, M.D.

Non-Resident Lecturers

OSCAR R. LONG, M.D.
WILLIAM A. POLGLASE, M.D.
ROLLIN H. STEVENS, M.D.

STUDENTS*

FOURTH YEAR STUDENTS

NAME	RESIDENCE
Neil Isaac Bentley, A.B.	*Ann Arbor*
Frank Winne Brown	*East Syracuse, N. Y.*
Melvin Elwell Chandler	*Greenville*
Leo Josephus Crum	*Owosso*
Neil Goodrich	*Ganges*
Hans Peter Gotfredsen	*Manistee*
Albert Euclid Hinsdale, *a*	*Ann Arbor*
Clarence Ludlam Hyde	*Buffalo, N. Y.*

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Seth Harold Jones	*Lansing*
Howard Bligh Kinyon	*Ann Arbor*
Mabel Hannah Knapp	*Buffalo, N. Y.*
Ethel May Knisely	*Barberton, O.*
Alfred Eddward Athelstan Mummery	*Ann Arbor*
John Walter Orr	*Morristown, N. J.*
John Albert Reese	*Eau Claire*
Archer Leroy Smethers	*York, Pa.*
William Howard Smith, B.S., *Michigan Agricultural College*	*Cedar Springs*
Montgomery Alexander Stuart	*Detroit*
Augusta Genevieve White, B.S., *Bucknell University*	*Bradford, Pa.*

THIRD YEAR STUDENTS

NAME	RESIDENCE
Hugh McDowell Beebe	*Sidney, O.*
Edward Bulger Chapman	*East Syracuse, N. Y.*
Ezra L. Covey	*Homer*
James Arthur Elson	*Albion, N. Y.*
Rhoda Pamela Farquharson, A.B.	*Detroit*
Walter Bertram Gerhard	*Ann Arbor*
Clarence Gillette	*Niles*
Ford Nelson Jones	*Detroit*
Anna Bell Lefler	*Centralia, Ill.*
Charles Irving Newton	*Geneseo, N. Y.*
Elmer Ewell Owen	*Warsaw, N. Y.*
Philo Henry Pease	*Chardon, O.*
John Clarence Smith, A.B.	*Ann Arbor*
Griffith Edward Thomas	*Scranton, Pa.*
Charles Carroll Waggoner	*Corry, Pa.*
Frank Weidman	*Battle Creek*
William Raymond Williamson	*Utica, N. Y.*
Oliver Bernard Zeinert	*Ballwin, Mo.*

SECOND YEAR STUDENTS

NAME	RESIDENCE
†Winifred Adams, *a*	*Kansas City, Mo.*
Charles Sherre Ballard	*Grand Rapids*
Estel Thorton Becks	*Ann Arbor*
Eleanor Louise Campagnac	*Melksham, England*
Ralph Emerson Case	*Pittsburg, Pa.*
Clarence Harvard Mead	*Mount Pleasant*
Joseph Harry Stonhouse	*Escanaba*
Zoena M. Sutton	*Tonawanda, N. Y.*
Walter Earl Watkins	*Ann Arbor*

Rupert Kimmel Welliver	*Dayton, O.*
William Harold Wetmore	*Oswego, N. Y.*
Homer Smith Wilson, B.S., *Grove City College*	*Grove City, Pa.*

FIRST YEAR STUDENTS

NAME	RESIDENCE
Irwin Henry Boesel	*New Bremen, O.*
Samuel Gordon Brooks	*Honeoye Falls, N. Y.*
Karl Bernard Brucker	*Lansing*
Floyd Hamilton Bussey	*Adrian*
Corwin Stanton Clarke	*Fairbury, Neb.*
John Redman Claypool	*Mount Vernon, O.*
†Lawrence Love Dill, *a*	*Lucerne, Ind.*
Moses Raymond Dillon	*Ann Arbor*
Emma Elizabeth Ernst	*Greenville, Pa.*
Jacob Faltermayer	*Niederhausen, Germany*
Zina Leslie Gilding	*Ann Arbor*
James Burnham Griffin	*Detroit*
Willard Hastings	*Fairmount, Ind.*
James Albert Jackson	*Wabash, Ind.*
Frank Hiram Lister	*Buchanan*
Ralph Robertson Mellon, B.S., *Grove City College*	*Springdale, Pa.*
William O. Merrill	*Mears*
†Frank Luding Moore, *e*	*Fremont, O.*
Jacob Moore	*Ionia*
Erwin Hare Mudge	*Buffalo, N. Y.*
Allen Paton Olmstead	*Geneva, N. Y.*
Ernest Alfred Purnell	*West Chicago, Ill.*
Alice Mary Ridge	*Beresford, S. Dak.*
Ralph William Ridge	*Beresford, S. Dak.*
Perry Christian Robertson	*Lansing*
Henry Charles Senke	*Rochester, N. Y.*
Ansel Brooks Smith	*Ann Arbor*
Earl Amzie Stickle	*Newark, O.*
Florence Aurthreholt Stone	*Jackson*
Allen Vincent Walker	*West Henrietta, N. Y.*
Clarence Howarth White	*Perry, N. Y.*
†William Udney Wolcott, *m*	*Menominee*
Theron Grover Yeomans	*Walworth, N. Y.*

College of Dental Surgery

FACULTY

JAMES B. ANGELL, LL.D., *President*
NELVILLE S. HOFF, D.D.S., *Secretary*
FREDERICK G. NOVY, Sc.D., M.D.
G. CARL HUBER, M.D.
LOUIS P. HALL, D.D.S.
EGBERT T. LOEFFLER, B.S., D.D.S.
MOSES GOMBERG, Sc.D.
CYRENUS G. DARLING, M.D., *Acting Dean*
SIMON M. YUTZY, M.D.
DAVID M. LICHTY, M.S.
FREDERICK L. DUNLAP, Sc.D.
ROBERT B. HOWELL, D.D.S.
MARCUS L. WARD, D.D.S.
ELMER L. WHITMAN, D.D.S.
RUSSELL W. BUNTING, D.D.S.
JAMES A. BURRILL, D.D.S.

Special Lecturers

WILLIAM T. REEVES, D.D.S.
EDWARD B. SPALDING, D.D.S.
MILTON T. WATSON, D.D.S.

STUDENTS*

RESIDENT GRADUATE

NAME	RESIDENCE
Mabelle Marie Bennett, D.D.S., *a*	*Ann Arbor*

THIRD YEAR STUDENTS

NAME	RESIDENCE
Frank Alanson Benedict	*Dowagiac*
Wayne William Brown	*Menominee*
Grace Winter Callahan	*Cincinnati, O.*

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Clinton Cyrus Davis	*Milford*
William Marshall Dow	*Hamilton, Ont.*
Frank Ellis Dunster, A.B., *Albion College*	*Bad Axe*
William Charles Elsacer	*Niles*
Albert John Hall	*Ann Arbor*
Herbert Hutchinson Harper	*Ypsilanti*
Joseph Scott Hawley	*Ann Arbor*
Clyde Peck Hendricks	*Morrison, Ill.*
Harry John Horton	*Greenland*
George Henry Kemp, LL.B.	*Ann Arbor*
Walter Gilbert Kinyon	*Providence, R. I.*
John Daniel LaFayette	*Eaton Rapids*
Morris Davis Mackoy, Ph.G., *Valparaiso College*	*Little, Ky.*
Chester Field Miller	*Chili, N. Y.*
Arthur Eugene Ramsdell	*Marlboro, N. Y.*
Charles Joseph Reilly	*Jackson*
Charles William Ringler	*Big Rapids*
Charles Verne Smith	*Hillsdale*
Claude Bergan Smith	*Geneva, N. Y.*
Ted Ray Southard	*Traverse City*
Edward Cramon Stanton	*Holland*
Leslie Earl Stiles	*Creston, Ia.*
James Hume Taylor	*Flint*
Robert Herman Vollmayer	*Toledo, O.*
Willis Walton Whipple	*Salamanca, N. Y.*

SECOND YEAR STUDENTS

NAME	RESIDENCE
George Gregor William Andree, B.S., *Columbia University*	*Scottville*
Joseph Warren Anson	*Sharon, Pa.*
Irwin Charles Ashley	*Ann Arbor*
Fritz Beyer	*Watervliet, N. Y.*
†Senekerim M. Bishop, A.B., *Anatolia College, p*	*New York, N. Y.*
Charles Lee Bliss	*Plainwell*
Le Grand Clapper	*Bellevue*
William Alfred Cook	*Lawrence*
Herbert Melville Dixon	*Saginaw, West Side*
James Samuel Donaldson	*Mount Clemens*
Le Vant Rolland Drake	*Union City, Pa.*
Isadore Albert Eppstein	*Toledo, O.*
Robert George Fralick	*Bay City*
Murlin Luke Gardner	*Pentwater*
Julian Elton Gilkey	*Plainwell*
Ralph Gordon Gix	*Petoskey*

Fred Schorno Granger	*Plainwell*
Roy Wallace Heath	*Plainwell*
Guy Truxell Katner	*Ann Arbor*
Carl Leslie Keyes	*Whitehall*
James Henry Linsley	*Hopkins Station*
Harry Egbert Loeffler	*Ann Arbor*
Lewis Kempton Mobley	*Ann Arbor*
Farland Tenny Morse	*Ann Arbor*
Mason Terpening Mount	*Lysander, N. Y.*
William John Neelands	*Sandhill, Ont.*
Michael Joseph O'Niell	*Midland*
Frederick Charles Parkins	*Pontiac*
Harvey Carlyle Pollock	*Rocky Ford, Col.*
Max Raabe	*Leadville, Col.*
Carl Gustav Riep	*Essen (Ruhr), Germany*
Michael C. Ruen	*Pinckney*
George Herbert Smith	*Ann Arbor*
John Caven Smith	*Morrice*
Alva J. Stamp	*Plainwell*
Clyde Elmo Swain	*Almont*
Mark Edward Thompson	*Midland*
Robert John Vaughn	*Otsego*
Arend Vyn	*Grand Haven*
Harry Turner Wallace	*Stamford, Ont.*
Louis Roscoe Weinig	*Tiffin, O.*
William Everet Wilson	*Saint Louis*

FIRST YEAR STUDENTS

NAME	RESIDENCE
Garabed Houanes Attarian	*Horpoot, Turkey*
William Roy Barney	*Charlotte*
James Donald Bentley	*Ann Arbor*
Harper Earl Brady	*Kalamazoo*
Earle Simpson Braithwaite	*Lakeside, O.*
Homer Wade Brouse	*Charlotte*
Fred William Bryant	*Opechee*
Wright Jason Burley	*Massena, N. Y.*
Elmer Frank Burns	*Clarence, N. Y.*
August Edward Camp	*Ann Arbor*
George Rogers Clark	*Ann Arbor*
James Alfred Connery, Jr.	*Saginaw*
Walter Savage Cross	*East Springfield, Pa.*
Fred Clyde Cunningham	*Muskegon*
Augusto de Goenaga	*San Juan, Porto Rico*
Esteban de Goenaga	*San Juan, Porto Rico*
Ralph Hiram Dimock	*Orchard Lake*
Grove Webster Dunham	*Hanover*

Bion Rose East	*Niles*
James Graham Erwin	*Oak Grove*
Russel Evans	*Niagara Falls, Ont.*
Fred James Farthing	*Flushing*
Harry James Fox	*Pigeon*
Hugh Augustus Goodwin	*Providence, R. I.*
Edwin Estebrooke Guerrier	*White Pigeon*
Frank H. Hamler	*Lyons*
Clarence Edward Harlan	*Otsego*
George Bailey Harris	*Lewisburg, Pa.*
Victor Henry Hilgemann	*Fort Wayne, Ind.*
Joseph Clyde Hoover	*Keuka, N. Y.*
Hubert Daniel Keenan	*Hogansburg, N. Y.*
Etta Grace Keith	*Hebron, Ia.*
Frank W. Kenfield	*Hastings*
Joseph Edward Kilgore	*Kalamazoo*
Herman Edwin Kreager	*South Haven*
Harvey James Maher	*Williamston*
Miles Milton Main	*Midland*
Orson William Maines	*Parma*
Benjamin Henry Masselink	*Zeeland*
Clark Nelson Merritt	*Potterville*
Plinny David Miller	*Petoskey*
James G. Morningstar	*Ann Arbor*
Frank Benjamin Needles	*Pueblo, Col.*
Walter Barnard O'Neill	*Rochester, N. Y.*
Harry Follett Parks	*Alamo*
William James Plunkett	*Blissfield*
Carroll Wilhelm Pratt	*Concord*
John Carl Ranger	*Lyons*
Bert A. Roelofs	*Zeeland*
Clare A. Rysdorp	*Grand Haven*
Herman David Schweinhagen, *m*	*Ridgeville Corners, O.*
Robert Cubit Simmons	*Hoosick Falls, N. Y.*
Percy William Simpkins	*West Bay City*
William Benjamin Smith	*Ubly*
Harvey Eugene Starr	*Moscow, N. Y.*
Raymond Webster Thomas	*West Springfield, Pa.*
Clifford L. Thompson	*Bath*
Laura Tregea	*Traverse City*
LeRoy Van Wagoner	*Oxford*
William John Alden Wagner	*Celoron, N. Y.*

Summer Session of 1905

IN THE DEPARTMENTS OF LITERATURE, SCIENCE, AND THE ARTS, AND OF ENGINEERING; IN THE DEPARTMENT OF MEDICINE AND SURGERY; AND IN THE DEPARTMENT OF LAW.

STUDENTS*

DEPARTMENT OF LITERATURE, SCIENCE, AND THE ARTS

GRADUATES

NAME	RESIDENCE
Mary Elizabeth Alcott, Ph.B., *University of Minnesota,* 1901 English; Rhetoric; English Philology	*Ann Arbor*
Harris Calvin Allen, A.B., *Cornell University*	*Rochester, N. Y.*
Frank Eugene Andrews, B.S., 1900, *g* Physics; Mathematics; Electrical Engineering	*Ypsilanti*
Lena Amelia Barber, A.B.	*Adrian*
Carrie Augusta Barden, B.S., *Upper Iowa University,* 1895	*Corvallis, Ore.*
Floyd Earl Bartell, A.B., *Albion College*	*Concord*
Anna May Lamb Bates, A.B., 1901 Latin; Greek; German	*Charlotte*
Beatrice Ollie Belford, A.B.	*Howard City*
Lawrence Howard Bertsch, A.B., *University of Indiana, e*	*Cambridge City, Ind.*
Walter Henry Blome, Ph.C. 1898, B.S. 1902, M.S. 1905 Organic Chemistry; Analytical Chemistry; Botany	*Ann Arbor*

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*The principal subjects of study pursued by candidates for an advanced degree are indicated under their respective names; the subject first named being the major study.

Italic letters following a name show that the student is attending the University in the year 1905-1906, and is enrolled in the department indicated: *a,* denoting Department of Literature, Science, and the Arts; *g,* Graduate School; *e,* Department of Engineering; *m,* Department of Medicine and Surgery; *l,* Department of Law; *p,* School of Pharmacy; *h,* Homœopathic Medical College; *d,* College of Dental Surgery.

Francis Marvin Bond, A.B., *Randolph Macon College*	*Baltimore, Md.*
Ella Bourne, Ph.B., *Depauw University,* 1893, Ph.M. 1897 Latin; German; Ancient Ethics	*Greenfield, Ind.*
J. Harlen Bretz, A.B., *Albion College*	*Flint*
James Irven Bricker, A.B., *Hillsdale College*	*Saginaw*
Ora June Brookover, A.B., A.M., *Wittenberg College*	*N. Manchester, O.*
Amy Louisa Broome, A.B., 1902 German; English	*Faribault, Minn.*
Lemuel Ransom Brown, A.B., *Middlebury College,* A.M., *Harvard University*	*Meadville, Pa.*
Charles William Burrows, A.B., 1898, A.M., 1901, *g* Physics; Mathematics; Physical Chemistry	*Ann Arbor*
David William Caldwell, A.B., *Olivet College*	*Champion*
Katherine Campbell, A.B.	*South Bend, Ind.*
Carolyn McMechan Chubb, A.B.	*Coldwater*
Walter Francis Colby, A.B., 1901, *g* Physics; Mathematics; Mechanics	*Ann Arbor*
Charles Dean Cool, A.B., 1899, A.M., *Howard University,* 1900 French Literature; Italian; Spanish	*Decatur, Ill.*
Joseph Henry Corns, A.B., 1901 Latin; Greek; Pedagogy	*Detroit*
Mary Belle Cox, A.B., 1904 Modern European History; American History; English Literature	*Huntington, Ind.*
Jennie Marion Liebich Coy, A.B., 1905 German Literature; German Philology; French Literature	*Saginaw*
Robert Way Crist, B.S., *Buchtel College*	*Cuyahoga Falls, O.*
Albert Robinson Crittenden, A.B., 1894, A.M., 1902 Latin; Ancient Philosophy; General Linguistics	*Olivet*
Edwin De Barr, Ph.B., Ph.D., *University of Oklahoma*	*Norman, Okla.*
Stephen A. Douglass, B.S.	*Saint Louis, Mo.*
Caroline Hawley Dudley, A.B., *Hillsdale College*	*East Dubuque, Ill.*
John Adams Dunford, B.S., *Michigan Agricultural College, e*	*Long Rapids*
Grace Louise Eaton, A.B., 1904 Greek; Roman Political Institutions; Roman Literature	*Corunna*
William Andrew Ferguson, A.B., 1904 Physics; Analytical Chemistry; Mathematics	*Niles*
Myron Earle Graber, A.B., A.M., *Heidelberg University*	*Tiffin, O.*
Grace Green, Ph.B., *Olivet College*	*Gaylord*
Mary Greer, A.M., *Virginia College*	*Rocky Mount, Va.*

Howard Davis Haskins, A.B., M.D., *Western Reserve University*	*Cleveland, O.*
William Henry Hawkes, A.B.	*Ann Arbor*
George Lewis Hayes, A.B., *Colgate University*	*Indianapolis, Ind.*
Lemuel Guy Holbrook, Ph.B.	*Agricultural College*
Frances Powell Hooper, B.S., *University of Mississippi*	*Columbus, Miss.*
Walter Fred Hunt, A.B., A.M., *g*	*Ann Arbor*
Wilbur Fisk Jackman, B.S., 1886, Ph.C., 1887 Mineralogy; English; Physical Chemistry	*Orono, Me.*
Charles Wesley Johnson, B.S., *Wilmington College*	*Highland, O.*
Louis Ward Keeler, Ph.B.	*Michigan City, Ind.*
Jacob Winnfred Kelder, A.B., *Hope College*	*Caro*
Edith Wilmer Kinnan, A.B.	*Ann Arbor*
Marjorie Kinnan, A.B.	*Ann Arbor*
Henri Clyde Krenerick, A.B., 1905 Electricity; Light and Sound; Physical Chemistry	*Ypsilanti*
Helen Rose Lang, B.L., 1900 Aesthetics; German Literature; English History	*Indianapolis, Ind.*
Carlos Pointon Long, A.B., *g*	*Rogersville*
William Arnold Ludwig, B.S., 1900 Physics; Physical Chemistry	*Ann Arbor*
Lily Virginia Lyon, A.B.	*Ann Arbor*
George Edward McCord, A.B., *Wittenberg College*, 1901, A.M., *Wittenberg College*, 1905 Mathematics; Physics; Physical Chemistry	*Atchison, Kan.*
Pearl MacDonald, A.B.	*Ashland, O.*
William Charles MacDougall, A.B., *Hiram College*	*Saint Thomas, Ont.*
Henry Clinton McRae, B.S., *Beloit College*	*Gas, Kan.*
Amelia Elizabeth McSweeney, A.B., *g*	*Detroit*
Herman William March, A.B., A.M.	*Ocheyedan, Ia.*
Pauline Martin, A.B., *Olivet College*	*Saint Clair*
Vernon G. Mays, Ph.B., *Albion College*, 1894 Pedagogy; Psychology; Sociology	*Albion*
Maud Lenora Menten, A.B., *University of Toronto*	*Toronto, Ont.*
Howard Daniel Minchin, B.S., A.M.	*Rochester, N. Y.*
Van Lieu Minor, A.B.	*Climax*
Edwin Lincoln Moseley, A.M.	*Sandusky, O.*
Jacob Moyer, A.B., *Greenville College, g*	*Ann Arbor*
Margaret Parthenia Murrell, A.B., 1902 Latin; Roman Institutions; English Literature	*Decatur, Ill.*

Frances Elizabeth Nichols, A.B., *Middlebury College,* 1900, A.M., 1905	*Sudbury, Vt.*
English Literature; English Philology; Rhetoric	
Webster H. Pearce, A.B., *Albion College*	*Albion*
Nellie Octavia Plée, A.B., *Olivet College*	*Portland*
Katharine Imogene Preston, A.B.	*La Porte, Ind.*
Richard Rider Putnam, B.S.	*Detroit*
Lilian Raudabaugh, B.L., *Ohio Wesleyan University*	*Lima, O.*
Thomas Ernest Rankin, A.B., 1898, A.M., 1905, *g*	*Ann Arbor*
Rhetoric; Aesthetics; English Literature	
John Frederick Reed, B.S., *Grinnell College*	*Iron Mountain*
Louis William Robey, A.B., *Bucknell University*	*Lewisburg, Pa.*
Bernie James Rockwood, A.B., *Dennison University*	*Bradford, Pa.*
Garfield Hugh Russell, A.B., *Fairmount College, e*	*Wichita, Kan.*
Charlotte Hale Sargeant, A.B.	*Detroit*
Rudolph Jahnke Schultz, A.B., *Olivet College*	*Lakota, N. Dak.*
Otto John Schuster, B.S., *University of Wisconsin*	*Platteville, Wis.*
Jay Wesley Sexton, B.S., *Albion College*	*Fenton*
Gustavus Adolphus Shartau, Ph.B.	*Chicago, Ill.*
Rufus Clark Shellenbarger, A.B., 1903	*Emporia, Kan.*
Physics; Mathematics; Physical Chemistry	
Charles Ernest Sickley, Ph.B., *Hillsdale College*	*Orland, Ind.*
Charles Edward Smith, Ph.B., *Albion College,* A.M., *Cornell University*	*Golden, Colo.*
William Kellogg Stacy, Ph.B., *Iowa College*	*Indianapolis, Ind.*
Harold Steele, B.S., *Albion College*	*South Haven*
Ralph Howard Struble, A.B., 1904	*Detroit*
Physics; Analytical Chemistry; Mathematics	
Alice Kerr Sturm, A.B., 1902	*Saline*
Latin; English Literature; Roman Political Institutions	
Thomas Arthur Taper, B.S.	*L'Anse*
Carl Clifton Tarbox, A.B., *Tufts College*	*Ann Arbor*
John Luther Thalman, A.B., *Ohio Wesleyan University*	*Owosso*
Edgar Campbell Thompson, A.B., 1901	*Detroit*
American History; European History; English Literature	
Nellie Thompson, B.L.	*Wabash, Ind.*
Luella Townley, A.B., 1904	*Lexington, Ky.*
English Literature; Ethics; Esthetics	
Glenn E. True, A.B., *Albion College*	*Saint Joseph*

Louisa Amelia Van Dyke, A.B., 1904 Mathematics; Physics; Pedagogy	*New Castle, Ind.*
Charlotte Hall Walker, A.B., *g*	*Ann Arbor*
Anson Harvey Washburn, A.B., *Butler College*	*Marshall*
George Nathaniel Watson, A.B.	*Kalamazoo*
Edwin Oscar Weaver, A.B., A.M., *Wittenberg College*	*Springfield, O.*
Charles Delmar Webster, B.S.	*Bay City*
James Erwin Weyant, A.B., *Albion College*	*Calumet*
John Wesley Whiteside, Ph.B., *Ohio State University*	*Wellston, O.*
Mary Ross Whitman, A.B., 1904 Latin; Ancient Philosophy; General Linguistics	*Beaver, Pa.*
Allen Sisson Whitney, A.B.	*Ann Arbor*
William Elgin Wickenden, B.S., *Denison University*	*Madison, Wis.*
Herbert Orlando Wilcox, Ph.B.	*Jackson*
Hobart Hurd Willard, A.B., A.M., *g*	*Ann Arbor*
Wallace Kirtland Wonders, A.B., *g*	*Detroit*
Nellie Leila Wortman, A.B., *Olivet College,* 1901 Latin; English; Comparative Linguistics	*Bryan, O.*
Oscar Herman Wurster, A.B., 1905, *g* General and Physical Chemistry; Analytical Chemistry; Mineralogy	*Ann Arbor*

UNDERGRADUATES

NAME	RESIDENCE
Alice Alexander	*Irvington, Ind.*
Glenn Wade Allen	*Jackson*
Helen Hirst Andrews	*Fenton*
Ambrosio d'Amorim	*Manaos, Brazil, S. A.*
Robert Francis Atkins, *a*	*Escanaba*
Albert Jay Bacon	*Pine Bluff, Ark.*
Ernest Lavern Baker	*Onsted*
Harry Pickands Banks, *e*	*Chicago, Ill.*
Grace Sylvia Barker	*New Haven, Conn.*
Noun Jack Barnabee	*Detroit*
George Albert Barnes, *a*	*Howell*
Orlando Mack Barnes, *a*	*Lansing*
Mary Luella Barram	*Huron, O.*
Ezra Baumann, A.B., *German Wallace College, a*	*North Amherst, O.*
James Harvey Baxter, *a*	*Lawrence*
William Waite Beardsley, *a*	*Ann Arbor*
Arthur Emmons Bellis	*Birmingham*
Harold Franklin Bennett, *a*	*Ann Arbor*
Mabelle Marie Bennett, D.D.S., *a*	*Ann Arbor*
Daisy Ellen BenOliel, *a*	*Ann Arbor*

Harry Eugene Bird, *e*	*Youngstown, O.*
John Wesley Bishop, *a*	*Ypsilanti*
Harold Blair	*Big Rapids*
Glynn Farnsworth Blanchard, *a*	*Ann Arbor*
Homer Newell Bliss, *e*	*Buffalo, N. Y.*
Gustave Robert Bode, *e*	*Iron Mountain*
Roy Edmund Boomer, *e*	*Ann Arbor*
Cornelius William Boot	*Holland*
Harriet Lane Bouldin	*Springfield, Ill.*
William T. Bovie	*Augusta*
Kenneth Morrison Boyd, *e*	*Youngstown, O.*
Gertrude Parker Bradley	*Evanston, Ill.*
Anna Braudy, *a*	*Grand Rapids*
Carl William Braun, *a*	*Toledo, O.*
Cecilia Marian Brennan, *a*	*Ann Arbor*
Larry Briggs	*Manton*
John Frederick Brocksmith	*Cincinnati, O.*
Henry Holbert Brodhead, *e*	*Buffalo, N. Y.*
Lillian May Brown	*Kalamazoo*
Worley Jesse Brown, *e*	*Sterling, Ill.*
Mary Elizabeth Bruce	*Ann Arbor*
Howard Miller Bryant	*Riverside, Ill.*
Edward Taylor Bullock, *e*	*New York, N. Y.*
Glenn Allen Bulson, *a*	*Jackson*
Nina Gracia Burdick	*Grand Rapids*
Miles Grover Burns	*Paducah, Ky.*
Eli Franklin Bush, *e*	*Hudson*
Frances May Butterfield	*Assumption, Ill.*
Austin George Byrd	*Boise, Idaho*
Eleanor Louise Campagnac, *h*	*Melksham, Eng.*
Myrtle Pearle Campbell, *a*	*Forestville, N. Y.*
John William Carey, *l*	*Chicago, Ill.*
Frances May Carmichael	*Ann Arbor*
Frank Everitt Carmichael, *m*	*Harrisburg, Pa.*
Howard Bruce Carpenter, *e*	*Pittsburg, Pa.*
Gail Luke Carver, *a*	*Climax*
Thomas Richard Cassidy, *a*	*Ann Arbor*
Earl William Castle	*Bessemer*
Mary Frances Caswell	*Waukon, Ia.*
Helen Kathryn Chamberlain	*Salem, O.*
Melvin Elwell Chandler, *h*	*Greenville*
Mary Elizabeth Chaney, B.S., *Ohio Normal University*	*Blanchester, O.*
Leora Adelia Chapin	*Ionia*
Charles Willis Chapman	*Fenton*
John Chauncey Childs	*Minneapolis, Minn.*
Frank J. Clark, *a*	*Battle Creek*
Carl Howard Clement, *e*	*New York, N. Y.*

Elizabeth Cleveland	*Detroit*
Joseph Clune, Jr., *e*	*Delray*
Fred Herman Cole	*Morenci*
Ethel Malle Cook	*Lansing*
Gladys Adelpha Cooper, *m*	*Ionia*
Sarah Elizabeth Cotter	*Cleveland, O.*
John Alexander Craig	*Oxford*
Clayton Archie Crandall, *a*	*Union City*
Blanche Adarene Crockett	*Celina, O.*
Harold Burdett Culbertson, *e*	*Charlotte*
Lillian Cope Cummings	*Toledo, O.*
John Spencer Curtis, *e*	*Pueblo, Col.*
Leo Harvey Darrow, *a*	*Park Ridge, Ill.*
Joseph Frank Davidson, Jr.	*Columbus, O.*
Ethel Mina Davie	*Shippensburg, Pa.*
Marion Davis, *a*	*Sharpsburg, Pa.*
Archie Smith Day	*Youngsville, Pa.*
Frank Alexander DeLisle, *e*	*Detroit*
George Franklin DeLong	*Three Rivers*
Clyde Alton DeWitt, *l*	*Ann Arbor*
Julia Marguerite DeYoung	*Grand Haven*
Carrie Leila Dicken	*Ann Arbor*
Herman Otto Dratz, *e*	*Muskegon*
William Dressel, *m*	*Toledo, O.*
Steven Maynard Dudley	*Monroe*
John Milton Duff	*Pittsburg, Pa.*
William Foreman Dunbar	*Brooklyn, N. Y.*
Oscar Alfred Eberbach, *a*	*Ann Arbor*
Fred Wylea Erwin	*Battle Creek*
Frances Mary Eschenburg, *a*	*Santa Barbara, Cal.*
Emma Louise Evans	*Norwalk, O.*
Walter Leonard Eyke, *e*	*Muskegon*
John Crocker Fisher, Jr., *a*	*Elmira, N. Y.*
William Orin Fletcher	*Ecorse*
William Henry Foote	*Chicago, Ill.*
Will Edward Frackelton	*Fenton*
Homer Horace Freeland	*Farmington*
Edward Gustave Fuhry	*Detroit*
James Cook Fuller	*Kansas City, Mo.*
Blanche Genevieve Gallup, *a*	*Ann Arbor*
Edward Everett Gallup, *a*	*Ann Arbor*
Harry E. Gardner	*Lansing*
Paul L. Gardner	*Harbor Springs*
Henry George, *e*	*Ann Arbor*
Harold Lee Giesler	*Muscatine, Ia.*
Irma Mary Gleason	*Hubbardston*
Joshua Bliss Glenn, *a*	*Hillsboro, O.*
Genevieve Elizabeth Globensky	*River Rouge*

Bertha Marion Goldstone	*Alma*
Elizabeth Goode	*Cranford, N. J.*
George Ellsworth Goodrich	*Rollin*
Benjamin Bear Gould, *a*	*Forestville, N. Y.*
Charles Kingman Grear, *e*	*Albion, N. Y.*
Nathan Cesna Grimes, *a*	*Ann Arbor*
George Guckenberger, Jr., *e*	*Cincinnati, O.*
Laura Jane Haggart	*Elk Rapids*
Charles Watts Hall, *e*	*Highlands*
Katherine Hall	*Manistee*
Walter Albin Hall, *e*	*Cassopolis*
Wilton St. John Hall, *e*	*Waverly, N. Y.*
Roy William Hamilton, *a*	*Detroit*
Lena Bergetta Hansen, *a*	*Ludington*
Cora Alma Hardinghaus	*Norway*
Flora Radcliffe Harmon	*Watervliet*
Theron Alvin Harmon	*Watervliet*
Edwinetta Edith Harmes	*Springfield, Wis.*
Anna May Harper	*Detroit*
Lutie Harris	*Wilmington, O.*
Raymond Newell Harwood	*Shelbyville, Ill.*
Walter Irving Hautau, *e*	*Chicago, Ill.*
Ralph Ernest Hawley, *a*	*Grand Rapids*
Homer Leslie Heath, *a*	*Ann Arbor*
Edward Liveus Hendrick	*Saint Joseph*
Herbert Bradley Hendrick	*Marine City*
Arthur Guy Henning, *e*	*Ann Arbor*
Clarence Anthony Henning, *l*	*Lead, S. Dak.*
Constantine Luther Herbster	*Irwin, Pa.*
Alma May Elizabeth Hinkle, *a*	*Philadelphia, Pa.*
Katharine Hoffman	*Wabash, Ind.*
Edward Lyman Holmes	*Detroit*
Clellie Hoover	*Belding*
Ray Phelps Hoover, *e*	*Chicago, Ill.*
George Hayes Hopkins, *e*	*Lansing*
Helen Hubbard Houseman, *a*	*Muskegon*
Harry Houston	*New Haven, Conn.*
Frank Eugene Howard	*Ionia*
Alice Margaret Hunter	*Minneapolis, Minn.*
E. Grace Hunton, A.B., *Thiel College*	*Lima, O.*
Caroline Lavina Hurlbut	*Detroit*
Thomas Hutchinson, *a*	*Menominee*
Alonzo Bee Imus, *a*	*Ann Arbor*
Kiyosue Inui, *a*	*Kobe, Japan*
Walter Newton Isbell	*Plymouth*
Harry Wayne Isenberg, *a*	*Toledo, O.*
George Leroy Jackson, *a*	*Springville, N. Y.*
Thomas Martin Jackson, *e*	*Saginaw*

Almeda May Janney	*Berwyn, Ill.*
Myra Anna Jaquet, *a*	*Ann Arbor*
Marion Luella Jennings	*Grand Rapids*
Myron Delos Jerome, *a*	*Evart*
Irene Johnston	*Belding*
Elof Theokles Johnstone	*Reed City*
Emily Jones	*Jacksonville, Fla.*
Isla Helen Jones, *a*	*Grand Rapids*
Samuel Tilden Jordan, *a*	*Paw Paw*
Homer Walker Josselyn	*Detroit*
Emma Rosetta Kassebaum, *a*	*Rossville, Kan.*
Elizabeth Catherine Kaye	*Dodgeville, Wis.*
Mylne Maurice Keena, *e*	*Detroit*
Glenn Russell Keith	*Battle Creek*
Charles Glen Kelley	*Newaygo*
Clinton Emory Kellogg	*Yale*
William Herbert Kempfer, *a*	*Beaver Springs, Pa.*
Joseph Hubert Kempster	*Coldwater*
Frank Roy Kepler	*Detroit*
Walter Brown Kern, *e*	*Dayton, O.*
Thomas Sylvester Keveney, *e*	*New York, N. Y.*
Clyde L. King, *a*	*Emporia, Kan.*
Arthur Collins Kirby, *e*	*New Bedford, Mass.*
William Gifford Kirby, Jr., *a*	*Ann Arbor*
Francis Washington Kirkham, *a*	*Lehi, Utah*
Will Rudolph Kirn	*Chicago, Ill.*
Ernest Edwin Knight	*Traverse City*
Carrie Krell	*Holland*
Frank Anthony Kuntz	*Spring Valley, N. Y.*
Albee Lovejoy Ladd, *c*	*Osceola, Wis.*
May A. La Fever, *a*	*Battle Creek*
Carrie Elnora Lake	*Ann Arbor*
Cass Arnold Lamb	*Washington*
Emma Lamb	*Detroit*
Anna Rebecca Lamborn	*Youngstown, O.*
Robert McNeil Lane, *a*	*Toledo, O.*
Joseph Kerr Langfitt, *e*	*Allegheny, Pa.*
Samuel Pierpont Langley, *c*	*Ann Arbor*
George Michie Laning, *a*	*Osaka, Japan*
Arthur James Larmon	*Cincinnati, O.*
Frederick Leighton	*Akron, N. Y.*
Lilyan Redfern Leighton	*Akron, N. Y.*
Rosco Genung Leland, *a*	*Mendon*
Ellen Norvina Lethin	*Elgin, Ill.*
Addie Littlefield	*Muskegon*
Pedro Evangelista Llamas, *p*	*Pagsanghan, Laguna, P. I.*
Ernest Peter Loeher	*Saint Johns*

Calvin Arthur Lohmiller, *c*	*Ann Arbor*
Merrill Rowe Lott, *e*	*Elk Rapids*
John Edward Loughrey, *c*	*Waterport, N. Y.*
Dwight Everard Lowell, *c*	*Auburn, Me.*
L. Coleman Ludlum, *a*	*Ann Arbor*
Mary Grace Lung, *a*	*Seattle, Wash.*
William Fred Lutz	*Ann Arbor*
Margaret Adrienne Lydecker, *a*	*Ann Arbor*
Joseph Henry McCann, *m*	*Stockbridge*
Louis Charles McClure, *a*	*Tecumseh*
Margaret Binnie McConaughey	*Punxsutawney, Pa.*
Louise Carey McConnel, *a*	*Jackson*
James Harry McCormick, *p*	*Kalamazoo*
Katherine Mary McCormick	*Kalamazoo*
Marianne Wetmore McGraw, *a*	*Ann Arbor*
Robert Gordon McKenzie, *m*	*Chester, Ill.*
John Francis MacKey, *e*	*Newberry*
Mary Kathryn Malcomson, *a*	*Detroit*
John Lewis Manion	*Alpena*
Grace Benson Marburger	*Salem, O.*
Lawrence Markley	*Chicago, Ill.*
Ward Haven Marsh	*Hartford*
Henry J. Mastenbrook	*Grandville*
Sara Suttle Maxwell	*Prospect Park, N. J.*
Richard Bascom May, *c*	*Ann Arbor*
Joseph Lee Mayberry, *a*	*Sharon, Pa.*
John Collier Mechem, *a*	*Chicago, Ill.*
George August Meier, *c*	*Whittaker*
George Victor Metzger, A.B., *St. John's College*, *p*	*Toledo, O.*
Modeste Andrew Metzger, *p*	*Toledo, O.*
Flora McKay Miller	*Detroit*
Rutherford Bradley Miller, *a*	*Belleville*
Carl Arthur Millis	*Waterport, N. Y.*
Raymond Daniel Minogue	*Newaygo*
Dennis L. Moore	*Freedom, N. Y.*
William Van Husan Moore, *c*	*Detroit*
Fred Charles Morgan, *a*	*Saginaw, West Side*
Fannie Leone Morris, *a*	*Grand Rapids*
Mayme Eliza Morris	*Indianapolis, Ind.*
William Albine Morse, *a*	*Detroit*
Ida Dorothy Most	*Wellington, O.*
Webster Charles Muck	*Lockport, N. Y.*
Hugo Muller, *a*	*Manila, P. I.*
John Russell Murray, *c*	*Owosso*
Almira Glen Myer	*Kalamazoo*
John Nils Nagle, *c*	*Washington, D. C.*
Henry Walstane Guérard de Nancrède, *a*	*Ann Arbor*

Bertha Louise Newton	*Reading*
Frederick Ward Ninde, *a*	*Ann Arbor*
Robert Dickey Noel, *l*	*Ligonier, Pa.*
Jess Blain Oates, *p*	*Kenton, O.*
Emily Myers Oberlin, *a*	*Columbia, Pa.*
Falconer O'Brien, *e*	*Detroit*
William Wallace Odell, *e*	*Chicago, Ill.*
Oscar Eddie Oie	*Ishpeming*
Jabez Kaleb Osgerby	*Howell*
George Nelson Otwell, B.S., *Valparaiso College*	*Berrien Springs*
Robert Washington Goldsborough Owen, *a*	*Atlanta, Ga.*
George Packard, Jr., *a*	*Flushing*
Clara Elizabeth Pagenstecher	*Dayton, O.*
James Kimball Palmer	*Racine, Wis.*
Araminta Marie Parker	*Saint Louis, Mo.*
Maud Parr, *a*	*Maple Rapids*
Louia Arch Paschke	*Fredonia, N. Y.*
Lida Leah Pate, *a*	*Adrian*
Walter Gardner Pattison	*Kalamazoo*
Frank Osborn Paull, *m*	*Calumet*
Edward Graeme Peattie, *e*	*Chicago, Ill.*
Clarence Axtell Penman, *m*	*East Chicago, Ind.*
Leigh H. Pennington, *a*	*Ann Arbor*
Edith Ellen Pettee	*Detroit*
Artie Katharine Peyton	*Columbus, Miss.*
Addison Leroy Phillips	*Racine, Wis.*
Matthew Griswold Pierce, *a*	*Peoria, Ill.*
Margaret Plummer	*Wabash, Ind.*
Harry Oral Potter, *a*	*Charlotte*
Edward Kuhn Price	*Allegheny, Pa.*
Carrie Amelia Proctor, *a*	*Antwerp, N. Y.*
Emmons Blaine Randall, *e*	*West Bay City*
Arthur McBride Ransom, B.S., M.S., *Ala. Polytechnic Institute*	*Newnan, Ga.*
Fern Lucile Raudabaugh	*Celina, O.*
James Athol Rawlins, *a*	*Salt Lake City, Utah*
George Alexander Ray, *e*	*Detroit*
Sarah Elizabeth Reath, *a*	*Vulcan*
John Albert Redfield	*Ann Arbor*
Mary Maud Reed	*Prospect Park, N. J.*
Harry Simpson Reed	*Lansing*
Helene Rice, *a*	*Calumet*
LeRoy R. Rickard	*Kashner Corners, Pa.*
Edwin Archibald Ridell, *e*	*Youngstown, O.*
Walter Delmer Riggs, *a*	*Ann Arbor*
Leonard Ernest Righter	*Sault Ste. Marie*
Irving Thomas Roberts, *e*	*Highland, O.*

Eugene Robinson	*Detroit*
Mary Jane Robinson	*Punxsutawney, Pa.*
Warren Lincoln Rogers, *a*	*Birmingham*
Cora Millard Romaine	*Cincinnati, O.*
Charles Chamberlain Root	*Shelby*
Florence Rosenthal, *a*	*Toledo, O.*
Walter Samuel Rosenthal	*Toledo, O.*
Mary Alice Rower	*Ottawa, O.*
Kathleen Gaine Rumney	*Detroit*
Gustavo Ernesto Saliva, *p*	*Mayaguez, Porto Rico*
Etta Louise Salliotte	*Ecorse*
Maynard Hubbard Salmon	*Syracuse, N. Y.*
Eduard Van Dorn Salsbury	*Chicago, Ill.*
Bernardo Tablante Samson, A.B., *Liceo de Manila*	*Pampanga, P. I.*
Carl Schacht, *e*	*Erie, Pa.*
Carl Howard Schartow	*Toledo, O.*
Adolph George Schulz, *e*	*Fort Wayne, Ind.*
Louis Joseph Sebille	*Detroit*
Mabel Roberts Secor, *a*	*Arlington, N. J.*
Elida Lucy Seelye	*Otterburn*
Ruth Shartel, *a*	*Neosho, Mo.*
Laura Belle Shook	*Punxsutawney, Pa.*
Elizabeth Skillen	*Iron Mountain*
William Warner Sleator	*Northville*
Maurice David Smilansky, *c*	*Detroit*
Adeline M. Smith, *a*	*Cassopolis*
Clyde Marsh Smith, *a*	*Lakeland*
Frank Smith	*West Toledo, O.*
Mattie A. Smith	*Saint Johns*
Robert C. Smith	*Saint Johns*
Ruby John Smith	*Manistee*
Walter Lewis Snider	*Essexville*
Florence Isabel Spence	*Ann Arbor*
Clara Inglis Stalker, *a*	*Saginaw*
Elsa Gardner Stanley, *a*	*Ann Arbor*
Fannie Bartrem Steele	*Abingdon, Ill.*
Edward Noble Stimson, *c*	*Detroit*
William Gailey Stockham	*Detroit*
Charles Howard Stocking, *p*	*Ann Arbor*
John Hinchman Stokes, *a*	*Washington, D. C.*
Mary Jane Stone	*Rochester, Pa.*
Chester Fowle Straight	*Greenville*
Gertrude Anna Straman	*Cleveland, O.*
Ilena May Swaim	*Mansfield, O.*
Tracy Olleton Sweetland, *a*	*Saline*
Leslie Post Tabor, *a*	*Charlotte, N. Y.*
Henry Chester Taft, *a*	*Ann Arbor*

Lyman H. Taft, *p*	*Lowell*
Louise Hopkins Tatlock	*Ann Arbor*
Norman Irving Taylor, *p*	*Detroit*
Carrie Harter Templeton, *a*	*Akron, Ind.*
Clifford C. Thomas	*Knoxville, Tenn.*
Joseph Alton Thompson	*Bancroft*
Lilla Louise Thurber, *a*	*Holland*
Glenn Lewis Tower, *e*	*Ann Arbor*
Ward Tower	*Three Oaks*
Mabel Esther Townley	*Birmingham, Ala.*
Margaret Grace Townley	*Ann Arbor*
Lawrence Knight True, *a*	*Chicago, Ill.*
Myra Belle True	*Adrian*
Carrie Dassell Upchurch	*Ann Arbor*
Catherine Van Gordon, *a*	*Hamilton, O.*
Charles Emmet Varier, *a*	*South Bend, Ind.*
Bertha Belle Vondracek, *a*	*Cedar Rapids, Ia.*
Gertrud Elizabeth von Unwerth	*Kansas City, Mo.*
Zoe Ione Waldron	*Houghton*
Murray Walker	*Imlay City*
Emma Lou Warner	*Kent, O.*
Thomas Robert Waters, LL.B.	*New Madrid, Mo.*
Parke Haffield Watkins	*Ithaca*
Mary Amalia Weber, *a*	*Pana, Ill.*
Harold Julian Weeks, *e*	*Allegan*
Leo Carl Weiler, *a*	*Joplin, Mo.*
Roy Dickinson Welch, *a*	*Dansville, N. Y.*
Berta Alice Wells	*Bay City*
Ralph Linford Werden, *c*	*Crofton, Ont.*
Myrtle Elizabeth White	*Coldwater*
John Christian Wiegand	*Ann Arbor*
Felix Eugene Wilcox	*Chelsea*
Arthur O. Wilkinson	*Detroit*
Charles Edgar Willebrandt	*Three Oaks*
Gordon Fay Willey, *a*	*Ann Arbor*
Ralph Collom Williamson	*Tallmadge, O.*
Elmer Jay Wilson	*Adrian*
Florence Margaret Wilson	*Lansing*
Roy Sheldon Wilson, *c*	*Buffalo, N. Y.*
Winnifred Anna Wilson, *a*	*Munith*
Mary Eliza Windsor, *a*	*Detroit*
Orrin Bowman Winter	*Tecumseh*
Alice Marian Wyman	*Grand Haven*
John Harvey Wyman, *c*	*Ann Arbor*
Ethyl Stevens Young	*Toledo, O.*
Anna Amelia Zahn, *a*	*Ann Arbor*
Philip Adolph Zang, *c*	*Denver, Col.*
Karl Zoellner, *a*	*Portsmouth, O.*

DEPARTMENT OF ENGINEERING

In addition to 113 regular students of the Engineering Department doing required summer work for which no extra tuition is charged, the following former students of the department were enrolled in the Summer School of 1905:

NAME	RESIDENCE
Herbert Manning Beechinor	*Mt. Vernon, N. Y.*
Ira Maxwell Birch	*Detroit*
Frank Adelbert Dwelle	*Jackson*
Ralph Wadhams George	*Ypsilanti*
George Alfred Kirley	*Sheldon, Vt.*
Leigh G. Palmer, A.B.	*Chelsea*
Arthur Mason Rebstock	*Buffalo, N. Y.*
Clifford Eugene Scott, B.S., *Earlham College*	*Saint Johns*
James Spofford, Jr.	*Northeast, Pa.*
Clyde Elmore Wilson	*Ann Arbor*
Lee Danforth Zimmerman	*Wayne*

DEPARTMENT OF MEDICINE AND SURGERY

NAME	RESIDENCE
Thaddeus Hoyt Ames, A.B., *m*	*Kalamazoo*
David Woolfolk Barrow, *m*	*Lexington, Ky.*
Albert Crum Baxter, A.B., *m*	*Ashland, Ill.*
Clayton Charles Benjamin, *m*	*Ann Arbor*
James Deacon Bruce, M.D., *Detroit College of Medicine*	*New Lothrop*
Levi Alden Burhans, *m*	*Portland*
Grace Winter Callahan, *d*	*Cincinnati, O.*
Claude Ira Canon	*Stoneboro, Pa.*
William Sanders Chapin, A.B., *Dartmouth College, m*	*Chelsea, Vt.*
Edwin M. Chauncey, M.D.	*Girard*
Roy Cuthbertson, *m*	*Orchard Lake*
Ernest Welker Dales, *m*	*Grand Rapids*
Vernon C. David, A.B.	*Chicago, Ill.*
John R. Davis, Jr., *a*	*Mexico City, Mex.*
Willard Woodard Dicker, *a*	*Chicago, Ill.*
S. Fred Edwards, B.S., M.S., *Michigan Agricultural College*	*Ypsilanti*
Clayton James Ettinger, *m*	*Mount Pleasant*
Oswald Charles Fluemer, *m*	*Mount Clemens*
David Emerson Ford, A.B., *Dartmouth College*	*E. Weymouth, Mass.*
John Gray Gage, *m*	*Warren, Pa.*
Neil Alexander Gates, M.D.	*Dexter*

Conrad Georg, Jr., M.D.	*Ann Arbor*
William Hammock Goodson, A.M., *University of Missouri*	*New Cambria, Mo.*
Harry Searls Gradle, *a*	*Chicago, Ill.*
Heman E. Grant, A.B., *Albion College*	*Albion*
Abraham Royden Gregory, Jr., B.S., *Illinois College, m*	*Jacksonville, Ill.*
Casper Frank Hegner, M.D., *Medical College of Ohio*	*Cincinnati, O.*
Horace John Howk, *m*	*Caledonia, N. Y.*
Petko Lazaroff Ivanoff, *m*	*Kaily-deré, Bulgaria*
Anna Christine Iverson, *m*	*Marcus, Ia.*
Eber Dunbar Kanaga, *m*	*Charlevoix*
Harrie W. Kenfield, *m*	*Hastings*
Howard Bligh Kinyon, *h*	*Ann Arbor*
William Sidney Knox, *m*	*Detroit*
Richard Henry Laning, A.B., *Kenyon College, m*	*Osaka, Japan*
Asa McCurdy, *m*	*Battle Creek*
Alexander Reid McKinney, *m*	*Ann Arbor*
Clinton Eber McKinnis, *m*	*Nashville*
Frank J. McMichal, *m*	*Plainwell*
Ira Albertus Marble, A.B., *m*	*Ann Arbor*
James Edward Maxwell, M.D.	*Decatur*
Lewis Kempton Mobley, *d*	*Ann Arbor*
Harrie William Moellering, *m*	*Fort Wayne, Ind.*
Ralph Luther Morse, M.D.	*Norwalk, O.*
Edwin Andrew Murbach, M.D.	*Archbold, O.*
Fonda Nadeau, M.D.	*Seattle, Wash.*
Frederick William Neal, M.D., *Rush Medical College*	*Newberry*
John Walter Needles, A.M., *University of Colorado,* D.D.S., *m*	*Pueblo, Col.*
Augustus Joseph O'Brien, Ph.C., *m*	*Bessemer*
Arthur Thomas Paull, D.D.S., *m*	*Calumet*
Esther Kempton Payne, *m*	*Gloversville, N. Y.*
Leopold Phelan, M.D., *Queen's College*	*Ann Arbor*
John Thomas Sample, *a*	*Saginaw*
Carl Ahrendt Scherer, *m*	*New Ulm, Minn.*
Leonard Adam Seltzer, Ph.C.	*Detroit*
George Slocum, M.D.	*Ann Arbor*
William Howard Smith, B.S., *Michigan Agricultural College*	*Ann Arbor*
Clarence Snow, B.S., *Harvard University, m*	*Salt Lake City, Utah*
Bertha Sabin Stuart, A.B., *m*	*Bay City*
William Sweeny Stucky, A.B., *Bethany College, m*	*Lexington, Ky.*
Amos Stueve	*Cincinnati, O.*

Benjamin Taylor Terry, A.M., *Vanderbilt University,* M.D., *Johns Hopkins University*	*Chicago, Ill.*
Julia Maria Torrey, A.B., *Boston University*	*Cleveland, O.*
Lawrence Chatfield Towne, *m*	*Geneva*
James Gerrit Van Zwaluwenburg, B.S., *m*	*Ann Arbor*
James Malcolm Walsh, *m*	*Saint Ignace*
Edward Howland Weld, A.B., *m*	*Rockford, Ill.*
Robert Ellsworth Wells, *m*	*Zanesville, O.*
Ray Close Whitmore, *m*	*Quincy*
Vernon Justin Willey, B.S., *Michigan Agricultural College,* A.M., *m*	*Ann Arbor*
Neal Naramore Wood, *m*	*Quanah, Tex.*
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Pauline Wurster	*Ann Arbor*
Raymond Albert Young, *m*	*Ann Arbor*

DEPARTMENT OF LAW

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Clyde Lawrence Canfield	*Pettisville, O.*
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Frank Sanders Elgin	*Memphis, Tenn.*
Frank Ertel, *l*	*Steward, Ill.*
Hugh Ambrose Feeley	*Silver Creek, Pa.*
Charles Francis Fletchinger, B.L., *Tulane University*	*New Orleans, La.*

Warren Washburn Florer, Ph.D., *Cornell University*	*Ann Arbor*
Claude Chesterfield Fogle, A.B., *University of Missouri, l*	*Lancaster, Mo.*
Earle Eugene Fogle, *l*	*Lancaster, Mo.*
Max Goldsmith	*Columbus, O.*
William Sutton Goudy	*Goodrich*
Fred Henry Haggerson	*Menominee*
Herbert Chester Hall, *l*	*Ionia*
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Edward Richard Hastings, *l*	*Adrian*
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Frank Delany Koelbel, *l*	*Muskegon*
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Abner W. Smith	*Concord, Vt.*
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Harvey Burnham Stout	*Indianapolis, Ind.*
Leon Eugene Stowe, *l*	*Howell*
Montrose Strasburger, *l*	*Detroit*
Alexander Ramsey Thomas, *l*	*Salt Lake City, Utah*
Carl Frederick Truitt, *l*	*Findlay, Ill.*
Carl Ultes, Jr., A.B., *Wittenberg College, l*	*Springfield, O.*
Wayland Ralph Walker	*Jefferson, O.*
John Charles Watson	*Racine, Wis.*
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Raynale Almeron Whitehead, *l*	*Birmingham*
Harry Marvin Wier, *l*	*Cambridge, Ill.*
William Perry Wilson, *l*	*Murphysboro, Ill.*
Howard Francis Withey, *l*	*Reed City*
William Scott Wood, *l*	*Muskegon*
Erwin Grover Wurster, *l*	*Milwaukee, Wis.*

Summary of Students

DEPARTMENT OF LITERATURE, SCIENCE, AND THE ARTS

Resident Graduates	103	
*Candidate for an Advanced Degree, enrolled in the Department of Law	1	
*Completed Undergraduate Course in February, 1906.	5	
Undergraduates:		
Candidates for a Degree	1,345	
Not Candidates for a Degree	112	1,566

DEPARTMENT OF ENGINEERING

Resident Graduates	8	
Graduate Studying *in Absentia*	1	
Undergraduates	1,156	1,165

DEPARTMENT OF MEDICINE AND SURGERY

Resident Graduates	2	
Fourth Year Students	69	
Third Year Students	60	
Second Year Students	120	
First Year Students	117	
Special Student	1	369

DEPARTMENT OF LAW

Resident Graduates	2	
Third Year Students	266	
Second Year Students	230	
First Year Students	332	
Special Students	66	
*Students primarily enrolled in other departments	6	†902

SCHOOL OF PHARMACY

Resident Graduates	6	
Undergraduates	72	78

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*Counted but once in the Summary by States.

†The total enrollment in the Department of Law, including the Summer Session, is 1,005; from this number 49 should be deducted for names counted twice, leaving the net total 956, as stated in the Announcement of the department.

HOMŒOPATHIC MEDICAL COLLEGE

Fourth Year Students	19	
Third Year Students	18	
Second Year Students	12	
First Year Students	33—	82

COLLEGE OF DENTAL SURGERY

Resident Graduate	1	
Third Year Students	28	
Second Year Students	42	
First Year Students	60—	131
		4,293
Deduct for names counted twice		113
Total, exclusive of Summer Session		4,180

SUMMER SESSION OF 1905

In Department of Literature, Science, and the Arts:			
Graduates	114		
Undergraduates	398		
In Department of Engineering	124		
In Department of Medicine and Surgery	74		
In Department of Law	103—	813	
†Deduct for students enrolled in 1905-1906 in some department of the University		422—	391
Grand total			4,571

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†Not included in the Summary by States.

SUMMARY BY STATES AND BY DEPARTMENTS

	Lit. Dept.	Engineering.	Med. and Surg.	Law.	Pharmacy.	Homœopathic.	Dental.	Summer Session.	Total.
Michigan	925	735	161	335	46	36	87	192	*2517
Ohio	136	89	33	74	8	8	6	58	*412
Illinois	111	78	23	104	4	2	1	22	*345
New York	81	84	27	27	3	17	15	14	*268
Pennsylvania	41	41	18	61	4	8	5	22	*200
Indiana	60	17	28	57	2	3	1	18	*186
Iowa	28	12	9	39	1	—	2	3	*94
Missouri	28	9	4	25	1	2	—	6	*75
Colorado	13	8	2	18	—	—	3	1	*45
Wisconsin	9	2	6	19	—	—	—	8	*44
Kansas	12	10	1	10	—	—	1	3	37
Minnesota	10	4	4	9	—	—	—	4	*31
Kentucky	4	5	4	9	2	—	—	2	26
California	2	4	3	16	—	—	—	—	25
Montana	9	4	4	8	—	—	—	—	25
Massachusetts	7	6	2	2	1	—	—	1	19
Nebraska	3	4	2	8	—	1	—	—	18
Utah	3	5	2	6	—	—	—	—	16
New Jersey	7	2	—	2	1	1	—	3	16
Washington	7	—	2	5	—	—	—	1	15
Texas	4	3	4	2	—	—	—	2	*15
Vermont	4	3	3	1	1	—	—	3	15
District of Columbia	8	2	—	2	—	—	—	—	12
North Dakota	3	2	3	1	—	—	—	2	11
Oklahoma	5	1	—	4	—	—	—	1	11
South Dakota	—	1	4	4	—	2	—	—	11
Maine	3	5	—	1	—	—	—	1	10
Arkansas	1	—	—	5	1	—	—	3	10
Virginia	5	1	2	—	—	—	—	1	9
Oregon	2	—	—	5	—	—	—	1	8
Connecticut	2	1	1	1	—	—	—	3	8
Wyoming	—	3	—	4	—	—	—	—	7
New Mexico	2	1	1	3	—	—	—	—	7
Georgia	2	—	1	2	—	—	—	1	6
Philippine Islands	—	—	—	2	1	—	2	1	6
West Virginia	1	—	1	3	—	—	—	1	6
Idaho	—	—	2	2	—	—	—	1	5
Tennessee	—	—	—	3	—	—	—	2	5
Porto Rico	1	—	2	1	1	—	—	—	5
Florida	1	1	1	1	—	—	—	1	5
New Hampshire	—	—	—	5	—	—	—	—	5
Rhode Island	—	1	—	2	—	—	2	—	5
Maryland	1	2	—	—	—	—	—	1	*4
Alabama	—	1	2	—	—	—	—	1	4
Mississippi	—	—	—	1	—	—	—	2	3
Arizona	2	—	—	1	—	—	—	—	3
Louisiana	—	1	—	—	—	—	—	2	3

*See note at end of table.

North Carolina	1	—	2	—	—	—	—	—	3
Indian Territory	—	1	—	1	—	—	—	—	2
Hawaii	—	—	1	—	—	—	—	—	1
South Carolina	—	—	—	1	—	—	—	—	1
Ontario	3	3	—	1	—	—	4	2	*13
Japan	5	1	2	1	—	—	—	—	9
Mexico	2	4	1	1	—	—	—	—	*8
Turkey	3	—	—	—	—	—	1	—	4
Germany	1	—	—	—	—	1	1	—	3
Netherlands	1	1	—	—	—	—	—	—	2
England	—	1	—	—	—	1	—	—	2
Alberta	1	—	—	1	—	—	—	—	2
India	—	2	—	—	—	—	—	—	2
Bulgaria	—	—	1	—	—	—	—	—	1
Columbia	—	1	—	—	—	—	—	—	1
Brazil	—	—	—	—	—	—	—	1	1
Quebec	—	—	—	—	1	—	—	—	1
British West Indies	—	1	—	—	—	—	—	—	1
Chili	—	1	—	—	—	—	—	—	1
China	—	1	—	—	—	—	—	—	1
Total........	1560	1165	369	896	78	82	131	391	4672

*From the figures in the column of totals deduction should be made for duplicates, as follows: Michigan, 50; Ohio, 13; Illinois, 10; New York, 6; Indiana, 5; Pennsylvania, 3; Iowa, 3; Colorado, 3; Missouri, 2; Wisconsin, Minnesota, Texas, Maryland, Mexico, and Ontario, 1 each; total, 101; leaving the net total 4,571, as stated on a preceding page.

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Loyal E. Knappen	1907
Fred Newton Scott	1908
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